Gleanings in Bee Culture

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CONTENTS

June, 1942

Honey Markets	325-326
Honey Producers Protest Restrictive Order M-118—Alan Root	329-330
Reference to Experiment on Packed vs. Unpacked Colonies—M. J. Deyell	331
The Importance or Adequate Equipment—John J. Louzecky	332-334
A Tribute to "E. R." on His 80th Birthday—Cary W. Hartman	335
Seasonal Manipulation of Colonies—William L. Coggshall	336-338
Premature Supersedure in Package Bees and Queens—A. R. Mallory	339-341
For Busy Days—Mrs. Benj. Nielsen	342-343
The Flash or Government Plan of Filtering Honey—Lloyd C. Gardner	344-345
John Toth Operates Apiary at Saint Mary's—M. Agnes Lauck	346
Melana Sweet Clover—A. S. Wurz, Jr.	346
Second Glances—C. M. Isaacson	347
Differentiating Characteristics in the Diagnosing of Brood Diseases	348
A Sideline Beekeeper	349
American Honey Institute News Notes	350
Spinster Jane Says	351
Editorials	352-354
From North, East, West and South	355-360
Beeswax a Critical War Product	360
A Symposium	361-363
Just News	364-365
Asked and Answered	366
Sugar Rationing Regulations Affect Beekeepers	367
Talks to Beekeepers—M. J. Deyell	368-369

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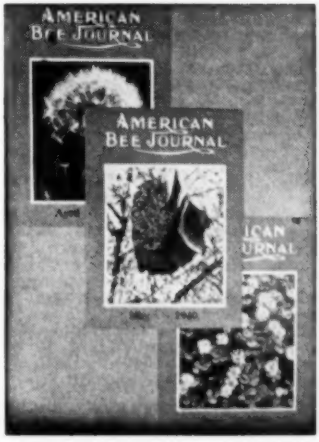

The Monthly Honey Market

U. S. GOVERNMENT REPORT
Information from Producing Areas
(Last half of April)

Wisconsin. Temperatures have been above normal and bees have been flying actively working on dandelion, cherries, hard and soft maple, elm and plums. Prospects at present are for a good flow this season if rain falls, but rain is badly needed. Brood rearing has been stimulated by the warm weather and the availability of nectar, but considerable feeding has been necessary. Many package bees are being brought into the State. Stocks of honey are light. Sales reported White extracted, ton lots, 10-12c per lb., small pails, 12c, 1-lb. glass jars, 15c per lb.; Amber, ton lots, 12c, 1-lb. glass jars, 14c per lb.;Buckwheat, small pails, 11½c per lb., No. 1 White comb, $4.00 per case. Beeswax, 39-45c per lb.

Minnesota. Warm weather has prevailed, with little precipitation. Conditions have been ideal for installing package bees, and heavy shipments of bees are coming into the State. Eastern Minnesota needs rain, but other sections are well provided with reserve moisture. Bees are using stores heavily, and much feeding needs to be done. Colonies apparently used more stores than normal during the winter. Where stores were adequate winter loss was very low, and losses above 6 per cent appear infrequent. Most colonies will average 5 frames of brood, and some have more. Most nectar-producing sources are reported 10 to 14 days earlier than usual. Demand for honey has slackened somewhat. Warm weather has brought out tree bloom rapidly, and bees have gathered an abundance of pollen and some nectar from pussywillows, box elders, plums, and dandelions. Sweet clover and alfalfa plants seem to have wintered well and are coming along satisfactorily. Subsoil moisture is ample at present but more rain will soon be needed. Sales reported 60s or more White extracted at 14c per lb., small pails, 10-13c per lb., No. 1 White comb, $4.20 per case. Beeswax, 42c per lb.

Ohio. Bees have been building up rapidly and occasional swarms reported. Dandelion and fruit bloom are furnishing a little surplus in some yards. Most colonies are now crowded with bees. More supersedure than usual, and many colonies reported queenless. Colonies are generally short of stores but should come along satisfactorily if the weather permits bees to fly during the dandelion and fruit bloom. Hard maple has yielded well for the first time in several years. Losses vary widely. Though many beekeepers report less than 5 per cent loss occasional yards had heavy losses. Package bees have been arriving in large numbers from the South. Spring rains have placed Dutch and alsike clovers in good condition. Commercial beekeepers are filling all available equipment. Most beekeepers have supplies and containers already purchased. Stocks of honey are light but occasional ton lots of White extracted reported moved at 12-14c per lb. Few lots of No. 1 White comb, $4.08 per case. Beeswax, 40c per lb.

SUMMARY—Abnormally high temperatures have been persistent over most agricultural areas except in the northern Great Basin, where it has been much cooler than usual. Drouthy conditions have become serious in the Eastern and Southeastern States, but the normally drier Western Plains and the Southwest have had much more than normal rainfall. Vegetation is beginning to need moisture badly in the Atlantic area westward to Ohio, and in much of the Lake Region. Bees have built up well in most sections except the Mountain States, aided in many yards by package bees and queens from the South. Winter losses apparently averaged below normal, except in the Mountain States where they are proving to be heavier than anticipated. Demand for both packages and queens continues extremely heavy, however, indicating expansion in many apiaries. New crop honey has been coming in to the hives in Southwest Texas from Mesquite, and in Louisiana, Florida, and Georgia from Ti-ti, Tupelo, Tulip Poplar, and other sources. The Orange flow in Southern California, however, has been curtailed, as has the early Sage flow, and early estimates by the trade range from only one-third to one-half of the Southern California Orange production of a year ago. Prospects throughout the main White Clover and Sweetclover areas are generally encouraging.

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the Office of Price Administration, beekeepers will no longer obtain sugar for their bees through the War Production Board. Those who have not already registered with their local County War Boards as industrial users can still make late registration with these boards, of which there are some 3,300 in the United States.

Demand for honey has fallen off during this period at wholesale, and in many sections also at retail, because price advances have been more rapid than with many other commodities. However, many beekeepers feel that with sugar rationing now in effect, demand for honey will again increase. The "General Maximum Price Regulation" issued by the Office of Price Administration on April 28, and stating that maximum prices commencing May 11 shall not exceed the highest prices charged during the month of March, is reported by OPA to apply to wholesalers, retailers, and packers of honey. The extent of its application to sales by beekeepers has not yet been announced by the Office of Price Administration. The present market for honey is unsettled, with tendency downward, and already sales are being made at prices lower than those prevailing a few weeks ago. The fact that packers have bought considerable honey placed on the market as the result of War Production Order M-118 issued on March 26, which restricted honey distribution, has tended to lessen the interest of honey packers in further purchases at this time.

Monthly Report of Honey Producers

Early in May we sent the following questions to honey producers: 1. What is your estimate revised to date, of the amount of last years' honey crop not yet sold in your locality? Give answer in per cent. 2. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) Comb honey, Fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, Fancy and No. 1, per case. 4. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, Fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. 6. What is the condition of the honey plants at this time in your locality, as compared with the average? Give answer in per cent. 7. What is the present condition of the colonies, as compared with normal, considering the number and age of the bees and the supply of stores? Give answer in per cent. 8. What is the per cent of winter and spring loss to date (if any) in your locality? The answers received are tabulated as follows:

Date Rec. May	State	Name	1 1941 Hold-over	2 Lots Ex.	3 To Groc. Ex.	3 To Groc. Comb	4 To Consum. Ex.	4 To Consum. Comb	5 Move-ment	6 Cond. of Hon. Plants	7 Cond. of Col.	8 % of Wint. Loss
6	S-Ala.	(J. C. Dickman)	0		.50		.60		Fair	80	80	10
11	B. C.	(A. W. Finlay)	0	.12½	.75		1.00		Fair	100	90	15
11	S-Calif.	(L. L. Andrews)	0	.12			.80	.23	Fair	40	80	10
11	S-Calif.	(Geo. Larinan)	0	.12			.70		Rapid	15	80	
12	C-Calif.	(Davis Bros.)	0	.10			.75		Slow	100	100	2
18	SE-Colo.	(Otis E. Adcock)	0		.60		.75		Fair	100	75	10
7	E-Conn.	(Allen Latham)	3		.75	5.00	1.00	.30	Fair	100	110	3
11	S-Fla.	(C. C. Cook)	0	.07	.60		.80		Rapid	110	125	15
8	C-Fla.	(Harry Hewitt)	0		.68		.80		Rapid	100	100	2
6	SE-Ga.	(J. J. Wilder	0	.08	.60	.75*	.75	.90*	Rapid	90	100	5
12	NC-Ills.	(A. L. Kildow)	0			3.50	.50	.17	Slow	125	110	3
5	S-Ills.	(Carl E. Killion)	0	.11	.77		.95	.19	Rapid	100	125	3
12	NC-Ind.	(T. C. Johnson)	0		.60	3.00	.75	.20	Fair	100	100	5
8	NW-Ind.	(E. S. Miller)	5		.75	3.60	.85	.20	Fair	100	100	5
11	W-Iowa	(E. G. Brown)	0	.11			.75		Fair	100	110	7
11	C-Md.	(S. G. Crocker)	5		.80	4.80	1.00	.35	Fair	75	75	10
11	N-Mich.	(Ira D. Bartlett)	0		.75		1.00		Fair	100	100	
8	E-Mich.	(L. S. Griggs)	0				.78	.20	Fair	100	100	4
8	S-Mich.	(Floyd Markham)	5	.12	.75		1.00	.25	Fair	90	110	5
13	C-Mich.	(E. D. Townsend)	0	.14½							110	
11	E-Minn.	(Floyd W. Ray)	0	.12	.80		.87		Slow	100	100	2
14	W-Minn.	(B. L. Morehouse)	0	.12¼	.85		.99		Fair	85	90	3
16	C-Nebr.	(J. H. Wagner)	15	.10				.20	Fair	95	95	10
15	W-Nev.	(Mrs. E. G. Norton)	0							80	100	3
19	W-N. M.	(C. A. Baltzley)	0	.10	.50	4.50	.76	.27	Fair	100	100	5
14	NW-N.Y.	(G. B. Howe)	10				.88		Fair	100	100	5
6	C-N. Y.	(F. W. Lesser)	1	.12			.90		Fair	90	110	2
11	SE-N. C.	(W. J. Martin)	0		.65		.80	.25	Fair	90	100	6
7	C-Ohio	(R. D. Hiatt)	0		.85		1.20	.25	Fair	95	100	5
11	NC-Okla.	(C. F. Stiles)	0		.80		.97		Fair	90	90	10
11	C-Pa.	(Harry Beaver)	0		.70		.85		Rapid	80	110	2
8	SE-Pa.	(D. C. Gilham)	5		.75	4.25	1.00	.25	Fair	100	100	4
14	W-S. C.	(E. S. Prevost)	0				.19		Fair	100	90	
16	SE-S. D.	(J. F. Norgren)	0		.70		.89		Fair	100	90	15
8	C-Tenn.	(J. M. Buchanan)	0				.75		Fair	100	100	
8	C-Texas	(T. A. Bowden)	0		.55		.65		Rapid	60	50	40
12	S-Texas	(J. N. Mayes)	0	.07	.40		.50			50		10
11	S-Texas	(H. B. Parks)	0	.08	.45		.58		Rapid	80	110	1½
11	W-Vt.	(Phillip Crane)	3		90	3.50	1.00	.30	Rapid	100	110	2
11	S-Va.	(T. C. Asher)	0		.60	4.00	.75	.25	Fair	90	90	5
11	SE-Wash.	(R. R. Isbell)	15		.70		.85	.20	Fair	100	85	10
8	N-W. V.	(W. C. Griffith)	0				.50	.20	Slow	100	125	1
11	C-Wyo.	(Chas. H. Ranney)	1		.65					100	80	30
9	N-Wyo.	(EarlC. Reed)	0	.11	.75		.89		Fair	100	75	25

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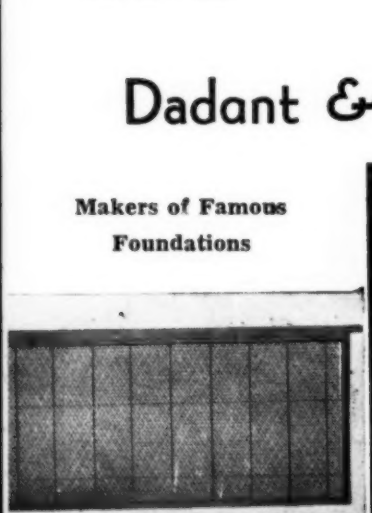

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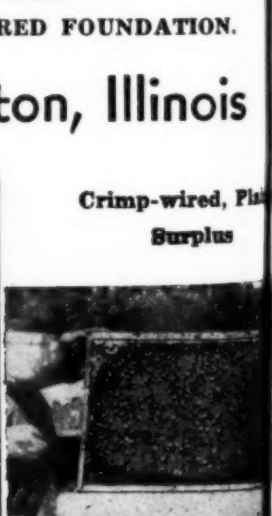

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in Bee Culture

June
1942

Honey Producers Protest Restrictive Order M-118 Limiting the Sale of Honey

By Alan Root

From the correspondence that has come to our office up to the time of the writing of this article on May 11, it is evident that there has been some misunderstanding regarding the restrictions on the sale of honey under War Production Order M-118. Likewise, some have erroneously associated my name with the preparation of this Honey Restrictive Order because of my connection with the War Council appointed in February at Chicago and my work on priorities for the bee-supply industry prior to that time.

I have no desire to assume either the credit or the blame for the good or bad features of this order for I had no part in the writing or the preparation of it, nor was I called to the Hearing held in Washington by the War Production Board to discuss the order before it was released.

Those both in and out of the Government who engineered the M-118 order, I am sure, acted in the best of faith with what seemed the best interests of the honey industry and the consuming public in mind. Time will tell, of course, whether this action to control the sale of honey was right or wrong. My own feeling is that if the order is administered strictly as written it could seriously damage the honey market. The Government is anxious to increase both honey and beeswax production during the coming year. A depressed honey price would seriously interfere with this program.

Here is the history of some of the conditions affecting the sugar and honey market during the past few months, and likewise some details regarding Order M-118 that I have been able to gather.

On December 15, 1941, Sugar Order No. M-55 went into effect rationing the amount of sugar that could be used by industrial consumers (soft drinks, ice cream, baking, tobacco, etc.) to 80% of what they used in the same months the previous year. Many industrial users were consuming sugar at the end of 1941 at the rate of 125% to 150% of their average 1941 use. Holding their sugar purchases down to 80% of 1941 meant that the difference had to be made up with supplementary sweets or lose sales for their products. The effect of Order M-55 was to immediately open up the tremendous potential industrial market for sweets to honey.

Then in addition to this the rationing of sugar for home use was announced during the week of February 21. The effect of this was startling. Housewives turned suddenly to honey as a supplementary sweet with the result that for the first time since the last war beekeepers enjoyed a market that was almost unlimited.

Then on March 26 Honey Restrictive Order M-118 went into effect. This partly removed the new potential industrial market created by sugar order M-55 as it treated honey in a manner similar to that of sugar. In addition to limiting old industrial consumers to 100% of 1941 it limited new industrial users who had not formerly used honey to 60 lbs. per month. This meant in effect that no one could use honey for an industrial purpose, such as a sweetening agent for soft drinks or for bread baking, etc., unless such person or firm had used it the previous year. It did not restrict honey for home consump-

tion, however. The purpose of the order was to conserve what seemed to be an insufficient supply of honey for home use and use by former industrial users.

It is the feeling of many, if not most, of the honey producers that unless the order is quickly amended it may have a serious depressing effect on the industry.

A very large amount of honey apparently had been purchased by these new industrial users who have come into the honey market because of a shortage of sugar. Unless these companies are allowed to use at least a portion of this honey it will be thrown upon the market with a depressing effect on the price.

In addition to this, considerable foreign honey had been ordered by importers prior to the effective date of M-118. This honey, generally speaking, is not suitable for table use because of the buying tastes of the public but is satisfactory for industrial use. With this large potential market shut off, the honey now stands in warehouses at the various ports. There might be a similar situation with certain off-grades of domestic honey.

Those men in the Sugar Division of the War Production Board who have charge of the administration of this order state that it is not the intent of the order to depress the market.

There are a number of changes which should be made to modify the effect of the order, such as (1) allowing the new users to use all or a part of the honey they have on hand; (2) permitting the old users a greater percentage than 100% of their 1941 use. Various appeals have been filed with the War Production Board at the present time asking that some of these changes be made.

At a meeting of the Ohio Honey Producers' Association on April 30 a resolution was prepared and sent to the War Production Board recommending that the order be amended.

Other similar appeals and protests have been forwarded to the War Production Board by the Michigan Beekeepers' Association and the California State Beekeepers' Association as well as some honey packers.

The men in the War Production Board charged with the administration of this order are anxious to protect both the public and the honey producers and are glad to have your constructive criticism.

As the protest from the Ohio association is a fair sample of the protests that have been coming in from over the country we are presenting it below: Later: See Editorial.

Copy of Resolution sent W.P.B., Washington, by Ohio Beekeepers' Association

We, the Industry Committee of the Ohio Beekeepers' Association, representing approximately 30,000 beekeepers, producing about 15 to 20 million pounds of honey each year, after reviewing Rationing Order M-118, urge that this order undergo certain revisions that might overcome certain injustices outlined below and discriminations detrimental to our industry.

The items which we object to are those under "C", general restrictions, items 2 and 3, which limit the use of honey to previous users, and in the case of previous users, to only the amounts used last year.

Not only would this be unfair to many present and potential users of honey, but it would impose a static condition on the industry, so that it would eliminate new users which are necessary to absorb the crop each year.

The bees and their function in pollinating the legume and fruit crops are much more important to agriculture, the general public, and the war effort, than the production of honey which is a by-product to this service.

For instance, the nation in 1942 will require a production of 150,000,000 pounds of clover seed over and above that produced last year. This seed production enables each farm to produce its own nitrates, enabling farms to maintain their productivity for the duration of their task of producing war food and permitting these nitrates to be shifted to use in war explosives. Limiting outlets of honey to old users and on a limited quota would tend to depress honey prices and probably create surpluses which would jeopardize this more important pollination function. The value of bees for pollination is generally rated at about 15 times their value for honey production.

No. 1

All industries using sweetening agents in their products should have been given just and reasonable consideration, whether or not they used honey last year.

Every industry using honey should be given consideration in proportion to its service to the public or the war effort, regardless of previous use.

No. 2

The order as now worded discriminates between essential industries in the same field by supplying some and depriving others of honey. Those of long experience in the honey production field know that new outlets and new honey users must be found each year both during and after the war to dispose of the crop produced. Many beekeepers or cooperatives have purchased honey at present market prices to supply their old customers. If new users are unable to utilize existing stocks, these stocks when dumped on the market will depress prices and cause losses which will make it impossible for the industry to best serve the public at this critical time.

No. 3

Inasmuch as Order M-118 was prepared without the knowledge and support of the industry, and inasmuch for the reasons outlined above, it would be detrimental to the industry, public good, and the war effort, we urge again that the order be revised to meet the above objections.

Reference to Experiment on Packed vs. Unpacked Colonies

By M. J. Deyell

On pages 50-51 of January, 1942, Gleanings, there appeared an article entitled, "Wrapping and Weighing Bees", with pictures to illustrate. Here is some further information:

On Nov. 21, 1941, 12 double brood chamber single-walled hives containing populous colonies of apparently similar strength were carefully weighed on a government tested scale and weights tabulated. Six of the hives were then packed in asphalt paper with five or six inches of fine straw between paper and hives, as described in the article mentioned. The other six hives were not packed.

On April 21, 1942, just five months later (when bees were not flying), these twelve hives of bees were weighed, just after the packing material was removed from the six hives. This is what we found:

(1) The unpacked hives of bees lost an average of 28½ pounds in five months.

(2) The packed hives lost an average of 23¼ pounds in five months.

(3) This means that the unpacked hives of bees lost 5¼ pounds more than packed hives. (Please note I do not say that losses in weights represent stores consumed. There are a number of factors, perhaps not too well understood that may enter into this.)

On April 24, three days later, we checked into all of these colonies and found that:

(1) The colonies in unpacked hives had an average of 9¼ combs containing some brood.

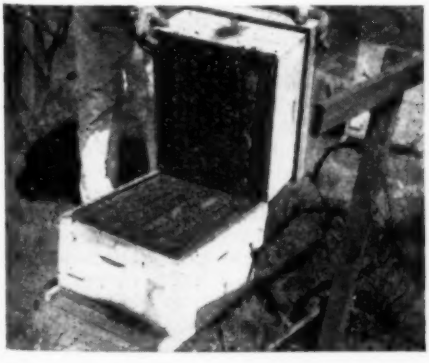
One of our apiaries showing packed and unpacked colonies.

(2) The colonies in hives that had been winter-packed had an average of 8½ combs with some brood.

Both sets of colonies used in the experiment were very populous on April 28, as will be seen from the accompanying pictures. The unusually early spring in this area may have had something to do with the strength of the colonies.

I shall not attempt, at this time, an interpretation of findings thus far. What I'm interested in mainly is the amount of surplus honey per colony each set of colonies will produce, based on labor and material used.

(Continued on page 375)



Two-story colony after packing had been removed.

Two-story colony that wintered without any additional packing.

Early inspection to check possibilities of disease, colony strength, etc.

Avoid killing bees through careless manipulation of hive bodies and supers.

The Importance of Adequate Equipment

Its Proper Use Helps to Insure Larger Crops

By John J. Louzecky

During the past several years while traveling through Ohio I have had the opportunity and the astounding surprise of discovering that the smaller beekeeper, the owner of 25 or 50 colonies of bees, nearly always leaves them in a very poor condition in which to over-winter themselves, just hives, no stores, no packing, nothing. The surprising part of it is that the bees are able to survive the winter. The toll in all cases is greater than the owners usually care to admit. Losses are appalling, yes, bankrupting. Fifteen, twenty, even fifty percent apiary losses occur during severe winters.

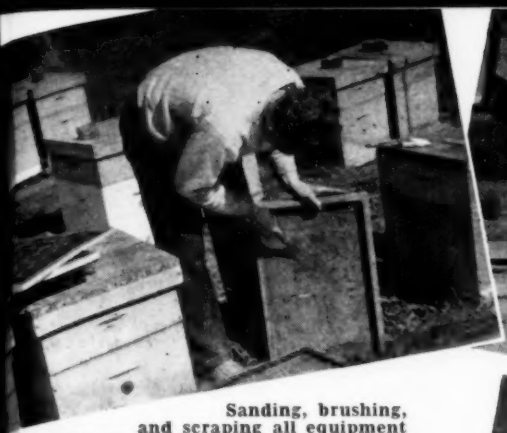
To lose one-fourth or one-third of a honey crop because of lack of proper equipment and manipulation may mean the difference between profit and loss, but it certainly means less income per hive and labor hours expended.

For commercial apiarists the one-story system of over-wintering colonies is being abandoned, yet some of the smaller producers persistently cling to this system. Unwilling to change, or invest some money in bringing their equipment up to date, they lose more money in one year's honey crop than would be required to adopt a more efficient system of overwintering the colonies and securing bigger crops. The best insurance of higher yields in the future is the certainty that the equipment used is sufficient and adequate for all manipulations.

The One-Story System of Over-wintering

Though the one-story system of over-wintering colonies may be used to some extent in regions where there is a late nectar flow, such as goldenrod or aster, yet I can only cite disadvantages and disapproval of it. During the period from August 25 to October 1 in this area, there is a slackening in the rate of stores brought into the hive due to the fact that nectar secreting flowers are not in great abundance at this time. It is a period when the clovers are in seed and aster and goldenrod are coming into bloom. This in turn, reduces and defers normal brood-rearing within the hive because of the lack of food stores. In periods of extreme dearth practical starvation may occur because there are no extra stores to tide the bees over until the fall flowers begin to secrete and yield nectar. Looming forth is the ever-present problem of pollen reserves. Under the one-story system the possibility that it is a limiting factor for normal brood-rearing is always prevalent. Certainly under this system there are definite limitations regarding the space in which the bees can store an adequate pollen and honey surplus for the winter.

Little better than no colony at all is a weak colony in the spring. Lack of stores, brood, pollen, and egg-laying space all have a decided tendency to weaken colonies. Though these effects may not be so noticeable in



Sanding, brushing, and scraping all equipment before applying the first coat of paint is a necessity to make a better paint job.

Upper Right: Indicative of conservation, good management, and careful planning are well painted hives. Two coats of paint suffice for four or five years and increase the life of the wood six to eight years.

the fall they surely will be apparent the following spring when the colony is not succeeding in

Two coats of paint are reasonable when they add twice the number of years to the life of each bee hive.

building itself up for the main honey flow. It is too late then to secure the great colony strength so needed to get a bumper crop. And it is only wishful thinking on the part of the beekeeper who believes his bees are better off in a one-story rather than in a story-and-a-half or a two-story hive.

One and One-half Story System

The cost of making the change is moderate, and the advantages

Poor apiary management, which leaves litter around the yard.

are well worth considering. I use the one and one-half story system of over-wintering colonies and know of many commercial apiarists who do likewise.

Consider the first advantages of the extra half story. During the slack season between the clover flow and the fall flow, the bees are insured of a half-depth super full of honey. This is an adequate food supply to carry the bees over the period of pos-

One and two story systems of overwintering in the same apiary. These colonies are in better condition to start their activity in the springtime than they would be if wintered in a one-story hive.

sible dearth. During normal seasons the one and one-half story supplies ample room for a colony to build up for winter. With the uppermost part of the hive filled with stores the queen can carry on her egg laying activity successfully in the lower part of the hive and not be hampered because of a lack of comb space. Though it is still a question of whether or not the pollen reserves are always plentiful under the story and a half system, during most seasons except those quite unfavorable for flower development, the bees are able to store enough pollen in the fall to rear their brood successfully in the springtime. Under these ideal conditions the colony strength at the beginning of the winter period is likely to be normal. This abundant colony strength in the fall will be well utilized the following spring during the fruit and dandelion bloom.

True indeed, it takes an outlay of cash to add an extra half-story on each hive. But if you place the cash investment on a ten-year basis the outlay of cash amounts to only a few cents for each colony per year. Don't be mistaken in thinking it isn't cheap insurance; it is. And for most beekeepers I highly recommend this method for over-wintering colonies.

The Two-Story System

The two-story system of over-wintering colonies is an ideal and indispensable one to use, especially in those areas that have no fall flow of honey, and thus must secure their over-wintering stores from the main honey flow. There is always a surplus of honey on hand which the bees may use to maintain their colony strength in the fall and likewise start brood-rearing earlier in the spring with the aid of a larger working force.

With two stories instead of one there is ample brood-rearing space for the queen and this certainly is an asset not only from the standpoint of swarm prevention, but also in securing and maintaining a large force of worker bees. The storage of pollen reserves, so vital in spring brood-rearing, and found lacking frequently enough in one story and sometimes in story and one-half hives to cause research workers to develop a pollen supplement, is seldom found lacking in the two-story system. Often this can be remedied by using a mixture of finely ground soybean flour meal placed on small trays and made accessible to the bees. Even better are the soybean and pollen cakes placed directly over the frames. Sugar syrup feeding necessary when colonies lack stores enough to carry them till the nectar flow is sufficiently heavy, is seldom necessary when two brood chambers are maintained instead of one.

There can be no doubt that the extra equipment necessary for a two-story colony unquestionably pays for itself. The factors I have listed certainly prove worth while. To change to a better system at this time is giving your business just that much more of a boost and better stability for the future.

The Queen Pours

Miss "Universal Honey" National Waffle Queen serves her maid of honor, Miss Dorothy Hall, a bit o'honey at the recent celebration at the Universal Home of Better Living in honor of National Honey Week. Miss Mary Ellen Meyer, beautiful New Britain, Connecticut, ma'amselle was chosen by Universal judges as the typical American honey . . . she was selected because of her honey colored locks, honey and cream complexion and sweet disposition.

A Tribute to "E. R." on His 80th Birthday

By an old friend —
Cary W. Hartman

"E. R." as he is today.

Standing here at the Golden Gate with the broad Pacific spreading out before me, I am looking into a war-torn world. The sight is depressing. I want to look at brighter things. The words of the poet come to me, "Backward, turn backward, oh time, in your flight, and make me a child again just for tonight." That's just what I will do. And looking backward I see the beautiful Ohio River hills and Old Man River just rolling along. In the northern part of the state A. I. Root had commenced in a small way an industry that is today the largest of its kind. A. I. Root put Medina on the map and E. R., his son, and others of the firm have kept it there. A. I. had advanced ideas in beekeeping and he was upholding the views of such leaders as Langstroth and Wagner and I believed his ideas were right and I wanted to know more about him, but Medina seemed far away.

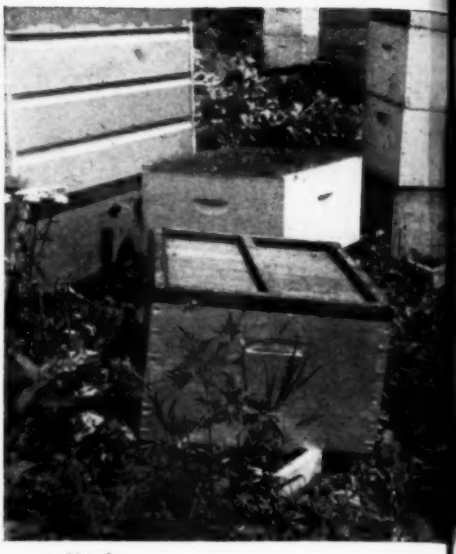
In my family at home there were several "stocks" of bees in old box hives that had come with the family, some 85 years before, from New Jersey to Kentucky and later crossed the river into Ohio. They had fallen into my hands for care and I knew little about them. To me A. I. Root was a wonder, and I thought if I could see him for only a few moments my troubles would all be ended. A young girl, a school friend, came along one day and bought one hive, paying me five dollars for it, and I saw my way to the promised land. I was received very kindly by the family of A. I. Root and every minute was precious. As I walked proudly about the grounds with my hero I met his son, E. R., who was at that time debating the course his life should take. His father had suggested beekeeping but E. R. was afraid of the stings. I do not know how long he weighed the question but he decided wisely, and followed in the footsteps of his illustrious father.

E. R. grew up a fine boy, a dutiful son, a devoted brother, a faithful husband, an affectionate father, and a loyal friend. What more can one say? It was E. R. I had in mind when I commenced this sketch. His picture hangs over my desk and it keeps reminding me of days that are past and very pleasantly of the ones that are passing. I see him adopting the Golden Rule as his rule of life and best of all his following it. Early in life he saw the importance of helping others and how well he has succeeded his record shows for itself. I stepped into the office of a business man and found him reading a letter from Gleanings in Bee Culture. As he looked up to greet me he asked if I had ever noticed the motto Gleanings had at the top of their letterhead. And when I answered that I was not sure, he read, "Created to help beekeepers succeed." And we agreed that the same motto fitted E. R.

The ignorance of the general public concerning the honeybee and its value to the human family is little short of deplorable. E. R. saw it and offered his services to a Lyceum Bureau to be booked in Lyceum Courses and Chautauquas in our largest cities.

(Continued on page 382)

No. 1



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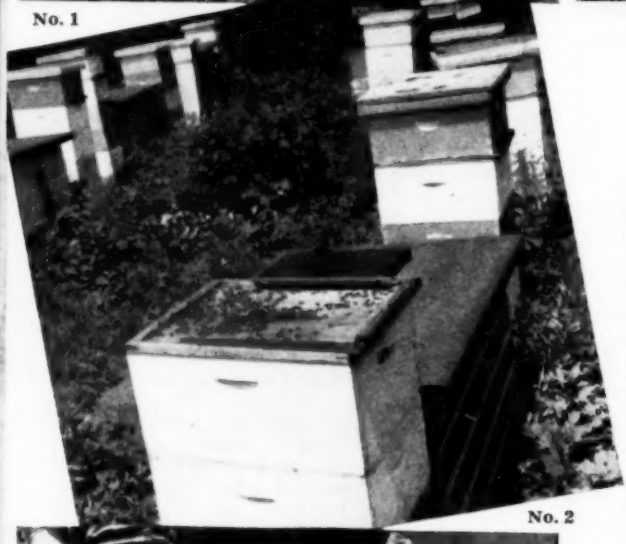


No. 2

Seasonal Mani

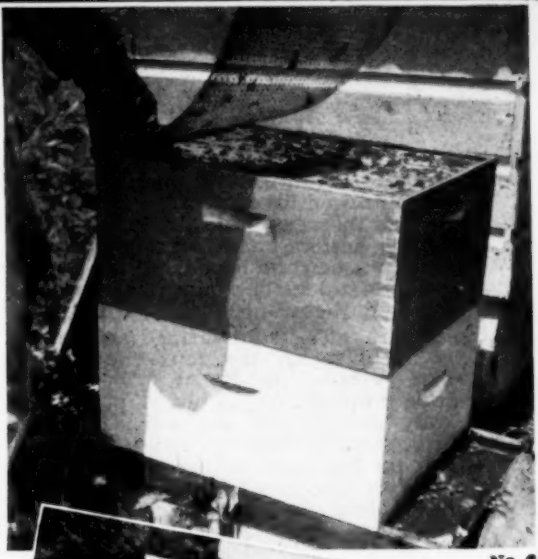
By W

These pictures were made in Ju 1941, during a trip to the yard to r move the crop. The double broo nest colonies are wintered in tw colony cases which remain in t apiary throughout the season, t colonies being placed on summ stands at each end of the cases. Wh this arrangement is inconvenient times, packing and unpacking m be completed very quickly and wi little effort. The packing case co struction making handling of co nies in and out easy, is another sto

During the past season this ya was operated somewhat differen from the others. By experimentin with theoretical ideas it is often po sible to work out an operation whi is practical for commercial beeke ing.

No. 1. About June 10th all quee were shaken or placed in the low brood chamber. On top of this the followed in the order named, an e cluder, empty extracting super, e tracting super already on at the ti of the manipulation, and the ot brood-nest with its own entrance. the same date the upper queen brood-nest was provided with a r queen cell. We had never previou given a queen cell to the queen brood-nest until at least a week h elapsed. On our next visit additio supers were added underneath upper brood-nest which at the sa time was checked for a queen. No illustrates such a colony. Thirty the forty-colony apiary had lay

No. 5



No. 6

on of Colonies

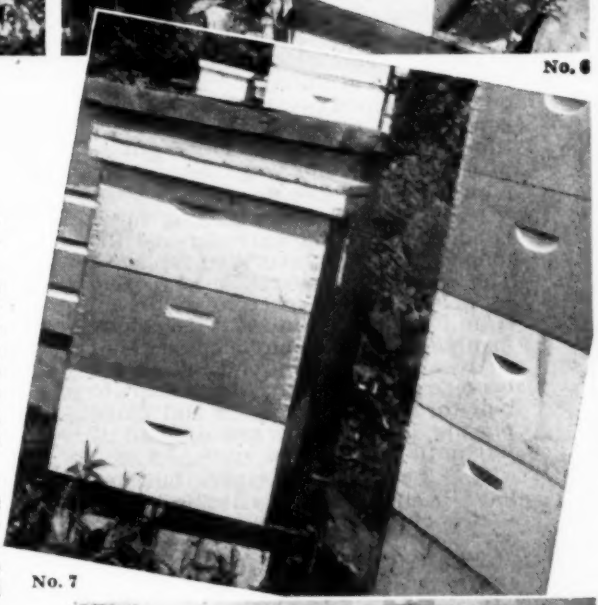
ggshall

queens. Where no queens were present the entrance arrangement was removed.

No. 2. The upper brood-nest has been removed showing the arrangement of the inner cover and entrance provision. Notice the acid pan on the packing case cover in the middle foreground. It was placed there to be warmed by the sun and the warm cover while the colony was being prepared for its use.

No. 3. Details of the inner cover-entrance arrangement beneath the upper brood-nest. A piece of discarded zinc queen excluder was tacked over the escape hole. Sides of the entrance piece are strips of wood shingle with the thin edge or end toward the back of the colony and at the front raising the brood-nest enough for an entrance. Young bees hatching from the brood thus placed and while the virgin matures and mates, may pass through the queen-excluding zinc to the supers below but many remain or travel back and forth caring for the brood later produced by the newly mated queen. At the time of taking off the honey this upper brood-nest was usually about half full of honey and had brood in three or four frames with the queen laying freely. The entrance we found to be too small for hot weather and the amount of brood and bees because the bees chewed at the hive in trying to increase the opening for ventilating purposes.

No. 4. The hive in the foreground



No. 7

is the upper brood-nest shown in No. 1 and removed in No. 2 and placed on the upturned hive cover. The middle hive is the regular lower brood-nest on the bottom-board and containing the old queen and brood. To the right are the supers of honey in front of the colony entrance.

No. 5. The sun-warmed acid pad is in place on the four supers of honey shown in No. 1. The four supers are set on an old empty hive body carried for the purpose and into which the bees are finally driven. Streaks and spots on hives and packing case are caused by flying bees, the motion of which the camera was unable to arrest.

No. 6. The brood-nest removed from the top of the colony and shown on the upturned cover in No. 4 is now returned to complete the two-story brood-nest and the excluder put in place. No attempt was made to dispose of the old queen.

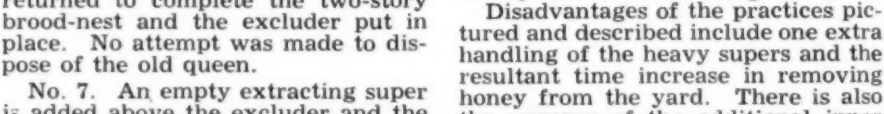
No. 7. An empty extracting super is added above the excluder and the inner cover and cover are replaced. The colony is now ready to receive its field and hive force to be driven from the supers. Note that the colony manipulation is completed without confusion or robbing and before the bees from the supers are present to boil through the excluder and make placing a super thereon difficult if left until later.

No. 8. Here all supers but one have been removed and this one is ready to carry away. Many bees have crawled out the opening made by the empty hive body setting on a cover placed upside down (shown in No. 5 but hidden by bees in No. 8, as is also the ground nearby). Any bees hanging from the bottom-bars of the last super are dislodged by one jar of the super of honey on the empty hive body below. This is much easier than when an empty hive body is not used and results in a last super as free of bees as the first. This is seldom the case when the acid pad is used directly on top of a colony. Bees driven from supers stacked directly in front of the colony entrance shown best in No. 7 often start up the alighting-board at the entrance and the entire lot of bees in the supers then follow the leaders and enter the colony like a swarm being hived.

Disadvantages of the practices pictured and described include one extra handling of the heavy supers and the resultant time increase in removing honey from the yard. There is also the expense of the additional inner cover and entrance arrangement. The advantages of an inexpensive young queen from selected breeders (the young queen in a majority of cases supersedes the old one when the brood-nests are united), the swarm prevention for the main honey flow and the extra strong colony for the fall honey flow and winter period seem to me to more than balance the bad features.

Ithaca, N. Y.

JUNE IS SWARMING TIME



Chas. Smith of Shabbona,Illinois, sent in this picture of a large swarm of bees clustered on the out side of its hive

Premature Supersedure in Package Bees and Queens

By A. R. Mallory

Apicultural Department, O. A. C., Guelph, Ontario.
(An address delivered at the convention of the O. B. A., Niagara Falls)
Taken from the May, 1942, issue of Western Canada Beekeeper.

During the past few years winter losses and disease have so reduced the number of colonies that there has been a tremendous purchase of package bees from the South in an effort to keep the total number of colonies up to par. There has also been a decided increase in total number of colonies by the expansion of commercial plants.

These packages have caused not a little complaint from the importers, as there has been a very heavy loss due to premature supersedure, even from reputable breeders. These queens are superseded before they start laying or after they have considerable brood in all stages of growth. If this were the experience from any one breeder's queens and not uniformly true with all the breeders, the cause might be due to improper rearing of the queens or, on the other hand, if the complaint came from a few persons, who were installing these packages or queens, the fault might be in the installing or treatment after they arrived. However, the trouble does not come from isolated sources, but rather in common to everyone dealing in packages.

Prof. R. H. Kelty has stated that "the supersedure problem is the most serious with which we have to contend today. In truth it is so serious that the natural tendency is to steer away from the package purchase and make up the necessary increase by some less expensive means."

Root (1940) came to the conclusion that the trouble is not altogether with the queen breeder nor with the one who receives the bees. Apparently, there is a combination of causes, some of which can be laid at the door of the breeder and some at the door of the consignee. He also states that queens should not be moved after they get into heavy egg production. If possible, they should be put into packages after one day's laying or confined to nuclei where they cannot lay eggs. Root (1940) also claims that queens usually begin to lay eggs when nine to 10 days old but, during a spell of bad weather or when drones are scarce, they fail to lay until three weeks of age. When queens do not lay at the age of 20 days they should be destroyed, unless it it out of season.

Gooderham (1936) has suggested that supersedure might be the result of bees having no brood at the time the queens are released in the hive. As a result, some queens are balled and injured.

Oertel (1940) states that 32 queens of 54 mated in eight to nine days after emergence and the remainder mated in 6 to 13 days. Twenty-one queens began laying 3 days after mating, 13 four days, and 11 two days. The remainder began laying in from one to eight days. Four queens mated twice in 1938 and 19 mated twice in 1939.

Bishop (1925) found that the drone is not sexually mature at the time of emergence, but undergoes a further growth period of at least 9 to 12 days. During this time many changes take place in the drone organs, especially up to the sixth day, after which the changes are slight.

Work at O. A. C.

The following work was done by the speaker as a thesis for the B.S.A. degree at the O. A. C., Guelph, with the object of trying to clarify in some way the tremendous problem of supersedure. Data was collected in some of the larger honey producing apiaries in Ontario.

The work was carried on in 46 different apiaries. Thirty-four of these are scattered from Tara to Hanover and Ayton to Bruce County and 12 from Minesing to Collingswood in Simcoe County. The Simcoe County yards were kept exclusively to breeder E queens.

The total number of queens under observation was 830. Of these, 165 were packages and the remaining 645 were queens introduced in nuclei.

Methods Followed

The packages were all installed immediately upon their arrival on to combs of honey and pollen. The bees were soaked down before shaking from the packages with sugar syrup

and the queens were released immediately. They were then closed up and left for a period of eight to 10 days before examining. All packages were treated equally so no difference should result. The queens were introduced to four frames of sealed brood and bees, making certain that the remaining frames had plenty of pollen and honey. Both the packages and the nuclei were fed a pail of syrup at the time of installing and another, if they required it.

Examinations

The examinations were given periodically after installing and data recorded up to the time for packing. Data was taken on the number of frames of brood, queen cells, if any, color and vigor, production, and condition for winter. No examinations were made of the brood chamber after July 1, as the honey flow had started and supersedure would make very little difference to the gathering strength of the colony after that period.

Information was obtained from the various breeders of the queens regarding their queen-rearing methods and the weather conditions during the period of rearing and mating. To be absolutely accurate on weather conditions, data was obtained from the Weather Bureau, Washington, on the actual hours of sunshine and temperature during the rearing and mating periods of the queens tested. In order to obtain data on the actual weather conditions during and after the introduction of the queens, records were kept of the temperature and available flying days these bees encountered until July 1.

Where both packages and queens for nuclei were obtained from the same breeder, they were included in the same experiment to save setting up an entire new set of headings.

Observations

The breeders' queens showing the least tendency to supersede had a marked advantage in good flying days during the rearing and mating periods. The main difference was in the temperature, which was from 3 to 10 degrees higher in some areas than in others. This allowed not only the queens more freedom to mate, but also gave the drones an opportunity to become sexually mature. This point has been overlooked by many breeders. When weather conditions are unfavorable, the colonies are inclined to discontinue raising drones, regardless of whether they are fed or not. As the work of Dr. Oertel conclusively proves, queens frequently mate more than once. Therefore, it is important to have sexually mature drones present at the correct time.

The number of available flying days for queen mating varied considerably in the different areas. However, as the definite age of each queen was not available, it can not be definitely proved that one group has any particular advantage over another in this respect.

These experiments reveal that supersedure is definitely heavier in package queens than in nuclei queens. The main reason seems to be the fact that the package queens have to be reared and mated so early in the South that the weather is not favorable for such procedure. The fact that some of the breeders' queens showed considerable superiority over others indicates that they have advanced further toward solving the weather problem, although it is a factor difficult to control.

The nuclei queens, however, proved very satisfactory when brought in after May 15. Supersedure was heavy in some cases but the main difference was between groups. Many of these nuclei were introduced under more unfavorable conditions than the packages, yet supersedure was as low as five per cent and production, on the whole, was heavier. The high percentage of supersedure certainly made a great difference in the average production of the various groups, since it ranged all the way from 100 pounds per colony to 18½ pounds. Some of this difference may be attributed to location and some to the addition of booster bees.

It is very evident that queen breeders differed widely in the care they use in selecting and handling their breeding stock. Out of the original 185 packages tested, 47 had to be fed for winter and 16 were lost entirely, due to queen trouble. Almost all of this group of bad queens came from three particular breeders.

The color displayed by the group seemed to have no definite bearing on the vigor or their suitability to this Northern climate. However, there was a tremendous difference in the vigor of the various groups tested. Three of the groups built up very well in spite of the backward weather conditions, but the other two were not so vigorous and the

winter will probably take a very heavy toll of these particular colonies.

Conclusions

1. Supersedure is definitely lower in queens brought in for nuclei than in early packages. Unfavorable weather for the proper rearing and mating of these queens so early in the season seems to be the main factor involved.

2. Nuclei started reasonably early in May are more satisfactory in every way than early packages.

3. Selection and handling of breeding stock is a very important factor in producing good queens and some breeders are more advanced in this respect than others.

4. Color has no bearing on the ability of different colonies to withstand unfavorable weather conditions. (End of thesis.)

Developments

From this work three series of discussion developed:

1. That the package queens were not sufficiently cared for and protected by the strange bees in the package. In short, these queens were more or less neglected and starved for several days or in many cases overheated by the closely clustering bees.

2. There was in the newly formed colony an overbalance of old bees and no new bees hatching to take their place.

3. The queens laid too rapidly for a time and, due to lack of sufficient bees, were unable to continue and slackened off. This led to their supersedure by the bees.

Later Experiments

To try and clarify these three angles, three new experiments were tried last spring at the Apiculture Department, Guelph.

1. Queens were purchased from the South and introduced to three yards of our own bees. In this experiment not a single queen was superseded.

2. Packages containing queens were purchased and put directly on to foundation and fed freely. In this experiment three queens were superseded out of 15 and later two more had to be replaced.

3. Packages containing queens were introduced and given two frames of emerging brood. In this experiment no queens were superseded.

This more or less narrows the field down to two comparatively safe methods of handling packages:

1. By purchasing queenless packages and introducing the queens after they arrive, which is as yet not definitely tried or proven.

2. By introducing the packages on to emerging brood which is a rather costly and unsatisfactory practice so early in the spring.

We won't attempt to say that anything definite has been proven in these series of experiments. We realize the magnitude of the problem and also that so far its solution has only been scratched. We only hope that we have furthered the studies and that some ideas have been dropped that will be carried on by some one else. In the meantime, our work on this subject shall be continued at Guelph.

Discussion at Convention

Package bees came under discussion with regard to the spread of disease. Some beekeepers attributed outbreaks to packages obtained from the South. However, there was very little proof that packages could have been at fault. Other importers testified that they had brought in packages for years, and had never had any trouble. C. B. Gooderham, the Dominion Apiarist, summed up the situation by stating that when bees have been away from diseased comb four days, there is no possibility of infection. Therefore, it is hardly possible for foulbrood to be transmitted in that manner. Several guests from the United States spoke on behalf of the package beekeeper.

There was further discussion on the question of supersedure of queens from packages. Several methods of introducing the queen were referred to. There is little chance of supersedure taking place if the queen is placed on foundation. It is possible that queens may be injured or badly treated in being transported. Also it was brought up that weather conditions in the South before shipment could cause trouble on arrival.

RECORD PRICE FOR BEES

In the recent War Weapons Week at Beauly, Inverness-shire, England, Councillor Pritchard initiated an auction sale with the gift of a stock of bees, which sold for £105. How stands this for a record?—Taken from the March, 1942, issue of The Australian Bee Journal which in turn took this item from the British Bee Journal.

For Busy Days

By Mrs. Benj. Nielsen

All-Bran Honey Prune Drops

Every homemaker throughout the length and breadth of our country realizes by now that this coming summer is going to be about the busiest she has ever known. Larger gardens, more canning, Red Cross work—all kinds of work for defense (no, victory, I like that word better now), both within and outside the home. Not all of us can serve at the front, but we of the beekeeping industry can help to bring a victorious peace closer by exerting every effort to produce our quota of the increased food production for which our government has asked. We can, and will, produce larger honey crops and work tirelessly in our efforts to further the use of honey as a substitute for the sugar which is needed for the manufacturing of ammunitions and to keep our armies marching.

During times of great stress, uncertainty and anxiety, when a nation is working against time, digestive tracts are very apt to be upset or disturbed. We are indeed fortunate in having so easily available, a wholesome, natural sweet which needs little or no digestion (the experts can't seem to agree entirely upon that point) before being absorbed by the blood. Let's take advantage of this fact—place the honey jar on the table three times a day and as we cook keep a full one handy in the kitchen.

I blush to think that anyone, especially anyone of a beekeeping family, should express the fact that it is a little hard to manage on 12 ounces of sugar per person per week! The sugar bowl has no place—and now of all times—on the table of a beekeeping family if that family is wholeheartedly behind the use of its own product! We cannot expect others to use our product if we do not back it by using it ourselves! If we who are left behind are called upon for no greater sacrifice than doing without a little less sugar, how fortunate we can count ourselves!

Recently in compiling a leaflet to aid in disciplining the sweet tooth, one homemaker suggested that "if all cakes and cookies are not iced, the birthday and special cakes will have more glamour because they have icing." A good idea! I might say, if your cakes and cookies must have a "top adornment", here is a tip worth considering: cool and lightly brush tops with warm honey (at room temperature) then sprinkle with shredded coconut in different colors. Good to look at as well as to eat! We like smoothly granulated honey for this purpose too.

Much emphasis is being placed upon the inclusion of larger quantities of fruits and vegetables in our daily diets. They are needed for the valuable minerals and vitamins they contain. Do remember that fresh fruits drizzled with honey have no peer, are not fussy to prepare and are GOOD for you. The simple natural sugars found in both honey and fruits blend perfectly and without stirring. Do hunt up the vegetable tips and recipes given in Gleanings from time to time, and use them faithfully as your bit in winning the victory.

With so much going on outside, many of you may not have time for your usual "kitcheneering" with honey. The most important part of a homemaker's job, however, is seeing that her own family is kept fit and healthy—and that means the right kind of good nutritious food. So, to aid you in these busy days, I have selected a few "non-fussers"—easy to prepare and to eat. For, of course, food to be good doesn't have to be fussy. And here they are:

Honey Fruit Salad

One envelope Knox Gelatine, ¼

cup cold water, 1 cup boiling fruit juice, 4 tablespoons lemon juice, ¼ cup honey, ¼ teaspoon salt and 1½ cups diced fruits.

Soften gelatine in cold water and dissolve in hot fruit juice. Add lemon juice, honey, and salt. Cool, and when mixture begins to thicken, fold in diced fruits. Pour into one large mold or individual molds, which have been rinsed in cold water. Chill thoroughly. Unmold on crisp lettuce and serve with honey cheese dressing. Another time you may like to omit the fruits and add 1 cup of finely chopped or shredded cabbage, ¼ cup of crushed pineapple, ¼ cup of shredded carrots and perhaps a bit of pimiento for a bright dash of color.

Honey Cheese Dressing

One-third cup honey, 4 teaspoons cornstarch, ¼ teaspoon salt, juice of 1 lemon, juice of 1 orange, 1 cup of unsweetened pineapple juice, 2 beaten eggs, and 2 3-ounce packages cream cheese.

Mix dry ingredients; add fruit juices and honey and blend. Cook in double boiler 20 minutes, stirring constantly. Slowly stir into the beaten eggs. Return to heat and cook 5 minutes longer. Cool slightly. Soften cream cheese; beat in cooked mixture. Chill. Makes 2 cups.

Honey Victory Muffins

One-half cup sifted flour, ½ teaspoon salt, 1½ teaspoons baking powder, ½ cup whole wheat flour, 1 egg, well beaten, ¼ cup orange juice, 1 teaspoon grated orange rind, ½ cup honey, and 3 tablespoons melted shortening.

Sift flour once, measure, add salt and baking powder and sift again. Add whole wheat flour and mix thoroughly. Combine beaten egg, orange juice and rind, honey, and shortening. Add all at once to flour, stirring only enough to dampen the flour. Bake in well-greased muffin pan in hot oven, 375 degrees F., 20 to 25 minutes.

To be at their very best these all-honey cookies should be allowed to age several days, or better still, two weeks, at which time they will seem much sweeter and full of fine flavor.

All-Bran Honey Prune Drops

Two eggs, ¾ cup honey, ⅓ cup prune juice, 2 cups sifted flour, 4 teaspoons baking powder, 1 teaspoon salt, ¼ teaspoon ground cloves, 1 cup Kellogg's All-Bran, 1¾ cups chopped cooked prunes, ¾ cup chopped dates, ½ cup chopped nut meats, and ⅔ cup melted shortening.

Beat eggs; add honey and prune juice. Sift flour with baking powder, salt, and cloves; add to first mixture. Add All-Bran, fruit, nut meats, and melted shortening. Mix and drop by heaping teaspoonfuls on greased baking sheet. Bake in moderate oven, 375 degrees F., 12 to 15 minutes. Batter may be spread thinly in cake pans, baked, then cut into bars.

Honey Chews

One tablespoon melted butter, 1 cup honey, 1 egg, 2½ cups quick cooking oatmeal, 2 teaspoons baking powder, ½ teaspoon salt, ½ cup flour, ½ cup chopped nuts, and ½ cup raisins.

Combine butter, honey, and egg and beat well. Add oatmeal, baking powder, salt, flour, nutmeats, and raisins. Mix well. Drop by teaspoons on well-greased baking sheet and bake in moderate oven, 350 degrees F., 12 to 15 minutes.

Honey Hermits

One and ⅓ cups honey, ⅓ cup butter, 2 eggs, ½ cup milk, ½ teaspoon salt, 1 cup chopped raisins, 1½ teaspoons cinnamon, ½ teaspoon cloves, 3½ cups sifted flour, and 3½ teaspoons baking powder.

Mix honey and melted butter. Add eggs, milk, salt, and raisins. Sift cinnamon, cloves, and baking powder with the flour. Add to first mixture. Beat well and drop on a greased pan. Bake in moderate oven, 375 degrees F., until brown.

Honey Cup Cakes

Two-thirds cup honey, ½ cup shortening, 1 teaspoon vanilla, ½ cup milk, 2 cups sifted cake flour, 2 teaspoons baking powder, ¼ teaspoon salt, and 3 egg whites.

Cream honey with the shortening, add vanilla. Add milk alternately with the dry ingredients which have been sifted together several times. Fold in stiffly beaten egg whites. Drop batter in well-greased muffin tins or paper baking cups. Bake in moderate oven, 350 degrees F., about 25 minutes. Cool slightly, brush tops with honey and sprinkle with coconut.

Honey Chocolate Cup Cakes

One-half cup melted shortening, ¾ cup buttermilk or sour milk, 2 eggs, 1 cup honey, 1¾ cup sifted flour, 1 teaspoon soda, ¼ teaspoon baking powder, ¼ teaspoon salt, 2

(Continued on page 377)

The Flash or Government Plan of Filtering Honey

The Importance of Quick Heating and Quick Cooling of Honey to Retain Flavor

By Lloyd C. Gardner

[In Gleanings in Bee Culture in 1934 and again in 1935 we published a method of filtering honey worked out by H. S. Paine and R. E. Lothrop of the Bureau of Chemistry and Soils, known as the flash principle of quick heating and quick cooling. The honey so filtered comes out clear as crystal. In the discussion that followed since that time, the question was raised whether the use of a filter aid would not also remove some of the essential elements of honey, the minerals and colloids, for example. Mr. Paine and Mr. Lothrop say not if diatomaceous earth is used. Both admit that bone charcoal of some kind might do so but do not recommend any of them. See editorial, page 291, May issue.

The objection has also been raised that the housewife is suspicious of a honey so crystal clear, fearing it is adulterated. Then, of course, there is the expense of the equipment.

Mr. Lloyd C. Gardner, first an advocate of the sedimentation plan, is now a user of the flash method and finds that the trade likes the honey because when so filtered it carries more of the original or virgin flavor, or that flavor just as it comes from the comb. After having used the Government plan for a couple of years he answers some of the objections that have been raised.—Editor]

Not so long ago, 1934 and 1935, a new method for processing extracted honey for the bottle trade was brought out. It was hailed at the time as a boon to the honey industry, a dawn of a new day. By this method liquid honey would have a clarity impossible to attain by old methods.

There are, of course, other reasons which appealed to the bottler. The most important, perhaps, was that he saw in filtering a step forward in that there would be an increased demand both for table use and in baked goods. We must agree the possibilities were weighed well before any and all who adopted filtering took this step.

Naturally enough, and as with any new method, any processing change will come in for a heavy drubbing from those who are sincere and honest, or those who can not afford to make the installation of necessary equipment.

How is honey filtered on the Bureau of Chemistry plan?

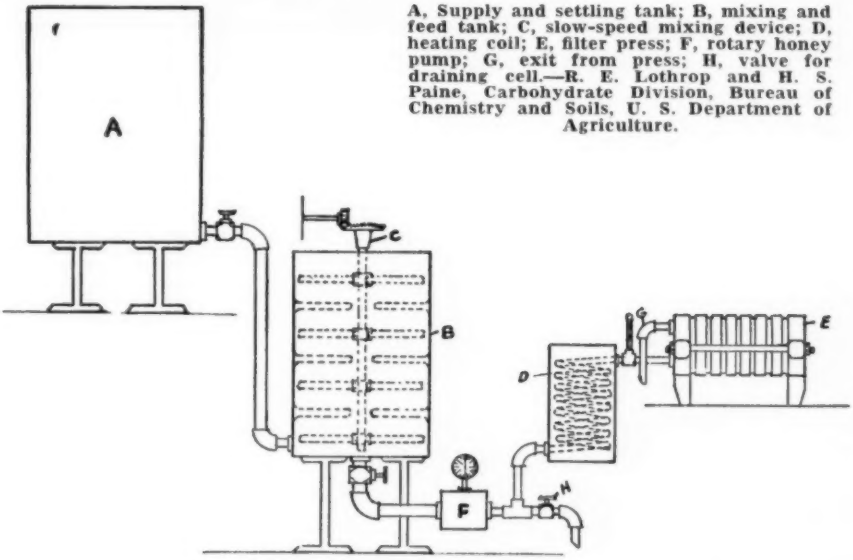
The process is not complicated. Neither does it require a laboratory assistant to do the job of filtering. Where great care and experience is needed is in the preparation of the honey for the filter line—the process of liquefying the honey. It requires the same care, of course, for any method whether it be for flash filtering or otherwise. In any case the honey will have to be liquefied and it is here that perhaps 90% of the damage from over-heating results. This can be charged to three things, carelessness, ignorance, and improper equipment.

Of all the equipment used for liquefying honey, the water bath probably is the most dangerous in the hands of the inexperienced. Particularly so when direct fire is applied to the liquefying tank. I repeat, this method is very dangerous and requires experience and close attention. More will be said on liquefying later on in this article.

Heating and Filtering by the Flash Method

Now let's follow through on a filter run. The honey mixed with a filter aid of diatomaceous earth at a temperature of 135° F. is emptied into the receiving tank, A, where it is separated from wax or coarse comb particles. It then is pumped into a mixing tank, B, in which a slowly revolving agitator keeps the honey in constant motion for the purpose of holding in suspension the filter aid which has been added to the honey in this tank. The amount of filter aid will depend upon the condition of the honey to be filtered. If the honey is very dirty probably ½ of 1% will be added, while a very clean bright honey will not require more than 1/20 of 1% and may not even require any.

From this tank the honey is pumped through a flash heater, D. By flash heater we mean a long coil of suitable pipe of the right length and diameter to do the job intended of it, namely, to flash the temperature of the honey going through it to 150 or 160° F. This coil is incased in a medium heavy jacket which forms a chest to hold, temporarily, the low



A, Supply and settling tank; B, mixing and feed tank; C, slow-speed mixing device; D, heating coil; E, filter press; F, rotary honey pump; G, exit from press; H, valve for draining cell.—R. E. Lothrop and H. S. Paine, Carbohydrate Division, Bureau of Chemistry and Soils, U. S. Department of Agriculture.

pressure or wet steam which supplies the heat to the coil.

The reason that low pressure steam is used is that it gives up more of its heat in passing than high pressure steam. An even temperature of 5-pound boiler pressure is ideal.

The honey passes through this coil very quickly taking on more heat as it passes along its way to the top of the coil. A thermostatic valve with a check thermometer at the top of the coil registers the heat of the honey. Leaving the flash heater it immediately enters the filter, E, and out of this into the bottling tank.

What is the construction of the filter? It is made up of a series of upright plates and frames. Both are constructed so that the honey will enter at one point and exit at another. For instance, the frame receives the honey from the flash heater. On both sides of it are the plates which are covered with a heavy stainless steel or Monel metal screen over which is placed the filter paper. The filled frame under pressure from the pump is relieved of its load as the honey seeps through the paper of the plates, through the screen to the base of the plate, and out through the eye at the lower corner of the plate. The filter aid forms a backing for the paper where it is retained. The purpose of its use is to prevent clogging of the paper which it does by building up on the paper as the honey flows through. Clogging is not new to those who have tried straining honey through cloth. In the same way the filter paper becomes clogged if an agent is not used which will catch the fine particles held in suspension in the honey.

What is this filter aid? The filter aid most generally used is known as diatomaceous earth. It is readily recognized by any high school student who has had a few lessons in biology as the remains of a unicellular algae which, living, has a covering or wall heavily infiltrated with silica, one of the components of glass. Remains of these plants are found in layers and are used as the basis of scouring powders, etc., as well as filter aids.

Generally, the big hue and cry against filtered honey is from the too much heat side of the question. We will agree that filtered honey does sometimes get onto the market ruined by too much heat. But we believe we could find an equal amount of unfiltered honey damaged in the same way and to the same extent. Burning or scorching usually occurs in the process of liquefying, and not in the filter. There is still another way that scorching can occur and that is by stacking bottled honey in tight corrugated cases so tightly that the heat cannot get quickly away. Possibly more scorching happens from this cause than any of us have ever thought. Generally the larger containers, two pounds or larger are apt to be affected most.

(Continued in next issue)

From the Field of Experience

JOHN TOTH OPERATES APIARY AT SAINT MARY'S

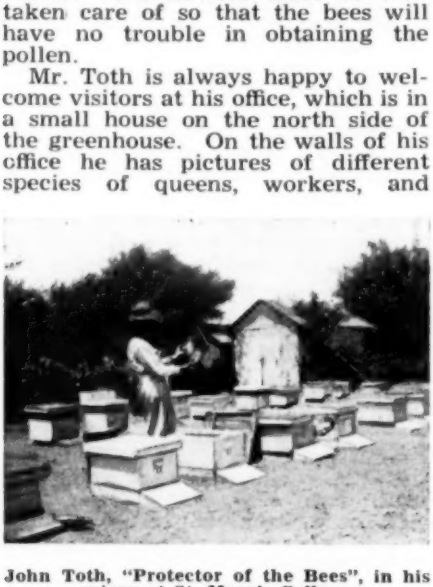
By M. Agnes Lauck

John Toth, the vigilant "Protector of the Bees," has the sweetest occupation at Saint Mary's College, Notre Dame, Indiana. Mr. Toth inherited from his father and his grandfather the desire to care for and protect the bees, and to improve the methods of the honey industry. At the tender age of ten, his father gave him a hive of his own to do with as best he could, and since then he has worked with beehives for more than fifty years. He is Hungarian by birth, but has been in this country for thirty-eight years.

At present, on Saint Mary's campus, there are twenty colonies, each of which yielded 400 pounds of honey, or a total of 8,000 pounds. All the honey is used in the convent kitchen to make bread, cookies, and pastry.

Cultivated at Saint Mary's are the same types of flowers that yield the delicately flavored honey which is imported from Greece. The bees have access to the hyssop, scarlet sage, bee balm, spearmint flower, roses, pussy-willow, and the jimson flower. The flowers must be well taken care of so that the bees will have no trouble in obtaining the pollen.

Mr. Toth is always happy to welcome visitors at his office, which is in a small house on the north side of the greenhouse. On the walls of his office he has pictures of different species of queens, workers, and drones. He likes to explain his work. He shows his visitors to all parts of his apiary, and explains each process to them.



John Toth, "Protector of the Bees", in his apiary at St. Mary's College

Mr. Toth is not content merely to accept the methods of hive-keeping that have been in use for years, but is constantly improving and making inventions that will facilitate care. He has patented an improvement on the beehive whereby the side of the hive may be removed, permitting easier access to the honey and preventing the danger of destroying the bees. This type of a hive has an improved base or support and is more easily adapted for shipment by its knocked-down condition.

For a time Mr. Toth conducted a correspondence school for novices in the knowledge of proper care of bees and beehives. He wrote in the Hungarian language, his native tongue, about the American methods of beekeeping. It was the first and only Hungarian bee and agricultural literature in the United States and Canada.

Holy Cross, Indiana.

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MELANA SWEET CLOVER

By A. S. Wurz, Jr.

Recently the first report appeared on the nectar yielding quality of the new annual variety of sweet clover developed by the Dominion forage crops laboratory at the University of Saskatchewan, Saskatoon, Sask.

One Mr. Ernest Williams of Glaslyn, Sask., reports, from the small plot of 1-40 of an acre, two colonies of bees gathered 125 pounds of honey.

The seed was sown on the 19th of May and the plants grew quite well and blossomed for a fairly long period of time. The seed crop, however, was lost due to late seeding and early frost on the 26th of September.

The seed supply is very limited. The only stock of seed now available is at the Dominion Forage Crops Laboratory, University of Saskatchewan, Saskatoon. Only one pound is sent free of charge to each applicant.

To insure getting a good amount of seed, the sowing should be done as soon as you can get on the land, spaced in rows 30 inches apart, ½ to ¾ of an inch deep.

Rockyford, Alberta, Canada.

SECOND GLANCES

By C. M. Isaacson

There is such a wealth of good material in the May issue of Gleanings that it is impossible to do justice to all articles. Space does not permit making proper comment on all of them.

Mr. Anderson has efficiently worked out the use of the shallow super as an aid in comb-honey production (page 265). As he described it, it should prove of real value, and help to produce bigger crops of Nature's finest sweet. The article will repay careful study.

Grant Morse has expressed an often overlooked truth (page 268). What Nature wants with the honeybee is often the reverse of the apiarist's desires—of course, this does not mean that we should entirely disregard her methods. He also makes a salient point in his advice of "bees at honey flow time". Just a word as to why a top entrance (or one fairly high up)—up here we use it largely to give an opening that always stays free for flights, even when snow is deep or ice forms.

"Supercharger Queens" (page 270). This contributor uses an apt name, and his system has two important points—it is both simple and efficient of material. The good queens produced through its use should mean much additional honey. It should be tried by many beekeepers.

In "The Private Life of a Queen" we have a bit of fancy that makes enjoyable reading. Some may complain that it is not strictly accurate in all details, but that is not essential or necessarily intended in writing of this sort. It shows a real love for the bees (page 272).

Mrs. Neilsen mentions the heavy demand for honey recipes and information (page 275). The good work that individual workers like herself, and the American Honey Institute have been doing for years is bearing fruit. Let's keep the ball rolling.

The baby hospital pictured and described by E. R. Root (page 277) is an ever practical illustration of what the American Medical Association has finally decided to recognize (page 280). Success seems to have come to the long work of the Honey Institute towards this recognition.

Those stovepipe smokers certainly appear to be powerful "engines" (page 279). I would like to have had the services of one for use on occasional colonies I have owned.

If E. S. Miller wintered bees here in the North, he could probably see why the lower entrance is usually closed—only a top or middle opening left. It gets too cold to have a draft through the hive—and when snow becomes deep, a lower entrance would be of no use anyway. His mention of queens heading for "the high upper spaces" when no excluder is used on a standard hive is certainly true (page 283).

The various articles on swarm control seem to agree on giving plenty of room early, as the chief preventive measure. It is the wise thing to do, but there do come seasons when only downright hard work will keep your bees home.

Prof. Snavely mentions dequeening and requeening after ten days as a control when producing comb honey (page 286) In a heavy flow, dequeening, shaking the bees on foundation (with perhaps one comb to catch pollen), and running in the new queen (laying), all in one operation will often start the bees working with "swarmlike" energy.

Mr. Jessup mentions leaving one comb of brood below when Demareeing after cells are started. I rarely leave any brood. In this case, especially when the swarming instinct is high, try giving **all** empty comb (preferably dark). It is safer and can be used even when sealed cells are found—and it keeps the brood with the hive (page 287).

Mr. Scott's manipulations to discourage swarming sound O.K. (page 287). Note the emphasis on doing them at the right time, just before the flows begin. That is the time when most trouble appears; once get past this period to where the flow is heavy, and swarming often stops almost overnight, even if colonies become crowded.

C. H. Pease turns up not only very much alive, but with his wintering method just as healthy. His records speak for themselves (page 301).

Editor Deyell shows just how much trouble a beekeeper can have at times (page 302)—his description of the enforced moving is real enough to make one almost share his sore muscles. But as he says in substance, even the hard work is fun.

"Help yourself by helping the Institute." This phrase is one that always tells a true story. No beekeeper can afford to neglect its truth.

Middle River, Minn.

Differentiating Characteristics in the Diagnosing of Brood Diseases

Characteristics to observe	American foulbrood	European foulbrood	Parafoulbrood	Sacbrood
General appearance of brood combs.	Brood irregular; intermingling of capped, open, and punctured cells; much dead brood in capped cells, cells with punctured cappings, and cells uncapped by the bees.	Brood irregular; dead brood mostly in open cells.	Brood irregular; most of dead larvae in open cells; varying amount of dead brood in sealed cells.	Brood slightly irregular; dead brood mostly in cells with punctured cappings or in uncapped cells.
Appearance of cappings over dead brood.	Many punctured, sunken, and discolored.	Few cappings sunken, punctured or discolored.	Cappings over dead brood punctured, discolored, sunken, or thickened and sharply depressed in the center.	Usually punctured.
Proportion of brood dead.	Varying from 1 or a few to 75 percent or more.	Varying from a few coiled larvae to most of the larvae in open cells, also a few larvae in capped cells.	Varying from few larvae to practically all the brood.	Small amount of brood dead; in severe cases, 50 percent or more.
Age at time of death.	Late larval and early pupal stage; rarely coiled stage.	Coiled stage; occasionally late larval stage.	Coiled larval stage; occasionally late larval and early pupal stage.	Late larval stage; occasionally coiled larval or pupal stage.
Position of dead brood.	Fully extended on floor of cell; tail turned up on bottom; head lying flat; great regularity.	Coiled on bottom or twisted on side walls; few larvae fully extended on floor of cell; very irregular.	Coiled on bottom, twisted on side walls, or fully extended on the floor of the cell; great irregularity.	Fully extended on floor; heads prominently raised; great regularity.
Color of dead brood.	At first dull white; then light brown; later coffee brown, dark brown, or almost black.	At first dull white, grayish white, or yellowish white, often becoming brown, dark brown, or nearly black.	At first dull white or grayish white, becoming light brown, brown, reddish brown, or dark brown.	Grayish to straw-colored, becoming brown, grayish black or black; head end usually darker.
Kind of brood affected.	Mostly worker; occasionally drone; rarely queen.	Worker, drone, and queen.	Worker, drone, and queen.	Usually only worker but sometimes drone.
Consistency of dead brood.	At first watery or slightly viscid, becoming ropy; finally brittle.	At first soft and watery; afterwards pasty, rarely viscid and ropy; scales tough, rubbery, or brittle.	At first soft and watery; in open cells becoming pasty and brittle; in capped cells frequently becoming ropy, finally tough or leathery.	Skin fairly tough; contents watery and granular; scales tough, brittle when completely dry.
Scales	Uniformly extended on lower side wall; tail curved up; dead pupae with tongue extended upward, often attached to upper cell wall; difficult to remove from cells.	Usually coiled on bottom of cells; often irregularly twisted; sometimes fully extended; tracheae often clearly visible; tough and rubbery; easily removed from cells.	Coiled on bottom, irregularly twisted on side walls, or fully extended in the cell; tracheae sometimes visible; easily removed from cells.	Uniformly extended on lower side wall; head prominently raised; outline wavy; grayish brown to nearly black; head darker; easily removed from cells.
Odor	No odor at first; distinctive odor different from gluepot odor in early stage of decay; gluepot odor in brown ropy remains and scales; odors constant.	Usually no specific odor in dead, coiled larvae; sometimes sour odor in partly decayed remains; decayed meat odor often present in decaying brood in sealed cells, finally penetrating and acidlike; odors variable.	Variable, resembling odor in European foulbrood but much more intense in ropy remains.	Absent or slightly sour.

The above is taken from circular No. 392 issued July, 1936, entitled, "Diagnosing Bee Diseases in the Apiary", by C. E. Burnside, Assistant Apiculturist and A. P. Sturtevant, Associate Apiculturist, Division of Bee Culture, Bureau of Entomology and Plant Quarantine of the [illegible] Department of Agriculture, Washington, D. C. This [illegible]

A Sideline Beekeeper

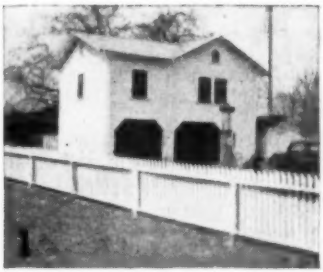

Fig. 1, garage and general workshop of Paul Barr. The lower part takes care of two cars, one a service machine, and the other a light truck. His work of assembling frames, supers and hives is all done upstairs, where he also does his extracting.. No, he doesn't tote his heavy supers upstairs nor does he tote again the honey downstairs. In Fig. 2, he has a dumb waiter or small elevator which he operates with a crank. With this he easily lifts his heavy stuff from his light truck up and down stairs.

Fig. 3 shows a small motor driven extractor. He puts in his combs, turns on the electricity and the work is performed with a minimum of labor.

Fig. 4 shows Mr. Barr standing beside a pile of supers stacked up, containing empty combs, on top of a medium sized colony.

In the South the wax moth is much more destructive of combs than in the North, because it is not subject to freezing temperatures long enough during the winter to kill the eggs, worms, and moths. If the combs are stacked up in a building, the pest will develop again and before one knows it they are infested with the moth worm and its web. It is for this reason that Mr. Barr has these stacked up supers of empty combs over a colony of bees. He has one or more of these at each yard, and when the honey flow comes on the combs are right handy, ready to put on the hives.

Fig. 5 represents one of Mr. Barr's apiaries under an oblong shed running directly east and west in the same manner that similar sheds are used in southern California and Arizona where the noon day sun is very hot.

Beekeepers as a class are among the most intelligent people in this country, which fact explains why so many are lawyers, doctors, and business men who keep bees as a sideline, not only for profit but for pleasure as well. They like to ride a hobby, one that pays dividends both in health and in money, and the keeping of bees meets the conditions of a profitable pastime outdoors.

Most of these sideliners, and by far the largest class in all beedom, are small beekeepers, only a few of whom increase their number of colonies until they become semi-commercial in their production of honey.

Among the sideliners in the southland is a newspaper man, or more exactly, circulation manager of a daily newspaper in Columbia, S. C. We refer to Mr. Paul Ray Barr, of Lexington. He keeps from 100 to 175 colonies which are managed on a profit paying basis. It is his habit, we are told, to get up at 3 o'clock in the morning, drive many miles, and by 9 or 10 o'clock be at his desk in his office in Columbia. In the afternoon he plays and works his bees at his home in Lexington.

When we were in the South a year ago we were told that he had one of the best outfits in the country. We were anxious to see it and here it is. No wonder he finds health and pleasure with bees.

The above is taken from circular No. 392 issued July, 1936, entitled, "Diagnosing Bee Diseases in the Apiary", by C. E. Burnside, Assistant Apiculturist and A. P. Sturtevant, Associate Apiculturist, Division of Bee Culture, Bureau of Entomology and Plant Quarantine of the [illegible], Washington, D. C. This circular

American Honey Institute News Notes

Because of the heavy demand on the Institute for exclusive articles for newspapers and magazines, the Institute News Notes are taking a new form this month.

The following are illustrations of recent bouquets for "Old Favorite Honey Recipes".

* * *

"As I took my copy out of its wrapper I remarked about the attractive cover. Another teacher seeing it asked if I could get one for her. I put the copy with a note on the bulletin board and in two days had 30 orders. Am ordering 36 copies. Perhaps there are still others who will want one."—West Allis, Wis.

* * *

"Enclosed find thirty cents for which please send me 3 copies of your book. I borrowed a copy from the Drexel Institute of Technology and liked it so well I wish a copy for myself and two friends."—Chestnut Hill, Philadelphia, Pa.

* * *

"I have recently seen a copy of your booklet, 'Old Favorite Honey Recipes'. I realize that this would be a valuable bit of illustrative material for teaching a course in defense work. I would appreciate a copy."—East Quogue, L. I., N. Y.

* * *

"I find these recipes very practical and will use them to every advantage in my Home Service programs. I will encourage homemakers to purchase this booklet from you as the time for sugar rationing approaches."—Montevideo, Minn.

* * *

"I saw a copy of 'Old Favorite Honey Recipes' which Dr. McCay at the School of Nutrition has, and was much intrigued by it. It is one of the most attractive recipe books put out by the food industries; I should think you would sell a lot, and hence sell more honey."—Ithaca, N. Y.

* * *

"I wish to thank you for your courtesy in sending me a copy of your 'Old Favorite Honey Recipes' which came safely to hand here yesterday. It is certainly very interesting and I must congratulate you upon the handsome set-up. In fact we feel tempted to acquaint some of our many customers in this country with quite a few of your recipes but, unfortunately, due to the war conditions we shall have to leave over printing any further literature for the time being."—Isleworth, London, England.

* * *

"I would appreciate receiving your wonderful honey book and can use the book for our canteen work."—Venice, Calif.

* * *

"Your honey recipes which I found in our Brighton City library are so fine I would like a book myself."—Brighton, Mich.

* * *

"Our county agent has recommended your Honey Booklet as a source of honey recipes."—Colorado Springs, Colo.

* * *

"I like my book so much I shall bind these new ones and use as gifts to friends."—Newark, O.

* * *

"Please send me your book of 'Old Favorite Honey Recipes'. It is an attractively set up publication and I have heard many good reports about it."—Ames, Ia.

* * *

"At this time we wish to compliment both yourselves and your printers for producing this fine book in the interest of honey. Have tried to persuade the wifey for years to use honey in her cooking, but it took this book to turn the trick."—Traverse City, Mich.

* * *

"I've been using your honey recipes right along on my Food for Victory special pages on Friday and in my daily column bearing the same title, and have sent out answers to simple requests for honey recipes made by readers."—Albany, N. Y.

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"Your honey cookbook looked too tempting to be without one."—Melville, Mont.

* * *

"We would like to get these ('Old Favorite Honey Recipes') as soon as possible because a group of children at my school would like to give them to their mothers as Mothers' Day gifts."—Clinton, Wis.

* * *

"I have found many of your recipes very successful in making delicious baked articles."—Bowling Green, Ohio.

Spinster Jane Says

Everyone thinks spring early this year, judging by the condition of the soil, and the earliness in fitting the land, sowing grain, etc. But, here in this part of the northland, fruit trees seem most tardy and reluctant to come into bloom. There was a reason for it, too. Our wild plum trees, an important and very lovely part of our bee-yard, had been transformed into clouds of snowy bloom, when there came four nights in succession of heavy white frost. The valiant blossoms stood two nights of it, apparently unharmed, but the third and fourth night proved a little too much. They are discolored and limp, their beauty quite gone, though the bees still work among them. Though this is May 11th, not a dandelion in our yard—which boasts a great many of them every season—is in bloom.

Owing to this dearth of bloom, and lateness, we have continued to feed our bees for several weeks. Boy secured a permit allowing him to purchase two bags of sugar, and only a little of the second bag remains. We are trying to keep sufficient to give the new package bees he is ordering a little start, should nectar not be plentiful upon their arrival.

I was quite right about those bees when in the cellar. They were uneasy, and all was not well with them. Though we got them outside before Easter Sunday, we lost approximately fourteen per cent. To date we have saved thirty colonies. My biggest complaint is, we lost both the Ohio colonies we prized so highly. Boy had not allowed them to swarm, had built them up into extra heavy colonies, wintering each in double hives. Both had been weighed, and generously fed, before being put in the cellar, and both had starved to death, though a quantity of pollen remained. Do you think it had played too big a part in their weight?

We value every colony highly, especially when our record shows that a certain colony has a prolific queen, and one who has proved her worth, is this true. We had one such hive, this spring, one showing little signs of life. It was dark in the cellar, and too cold outside to examine it, so Boy brought it into the kitchen. He took out several frames covered with bees, all quite evidently just about dead. The queen, herself, was scarcely able to move, as nearly dead as were her many attendants. To experiment a bit, and to try to save what seemed so much worth saving because of past records, we poured some warm syrup over the frames, returned them to the hive, closed the entrance with wire screening, and left the hive in the warm kitchen over night. Imagine our delight next morning, to hear quite a normal-sounding hum coming from the hive, and on opening the hive to find the bees clustered as if nothing had happened!

We gave them a feeder-pail of warm syrup, and put them outside with the others, in a sheltered spot. Today, those bees are working late and early, and one peep inside assured us the queen has a fine showing of brood. It will have to turn much warmer before we can go through the hive properly and find out what has happened.

We are preparing for 25 four-pound packages of southern bees to arrive shortly before the clover honey flow. Boy has taken one load of supers to the city with him. He has a roomy basement there, and can paint them, in his spare time, a glistening white, ready to house the newcomers, and it will still take another truckload.

I am almost jealous of the new yard, and will do my biggest to see that the home yard lacks for nothing. There will be keen competition between the new and the old, but competition should be a fine thing. There will be no danger of stagnation. Do they not say that competition is the life of trade? To me, one of the beauty spots of this homestead is that double row of hives, sheltered by shrubs and trees, and bird music is no cheerier than the humming of honey-bees.

Near us, a big farm has just been purchased by a merchant. He will make a hobby of farming, will use it as a distraction, to take his mind off business worries. When I suggested bees, the man hired to look after this farm said, "If he keeps bees, he won't keep me." With me it is just the opposite. No farm would be homelike to me without bees and their cheery soothing hum.—Spinster Jane.

Editorials

Just as we go to press it is rumored that Order M-118 to restrict sales of honey to certain users has been liberalized. We hope it is along the lines as given on page 330.

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Beekeepers may be called upon to do some overtime this season, in supervising the management of apiaries owned by young beekeepers who have been called to the service. We know that beekeepers who receive calls for such service will respond willingly, in order to help win the war.

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How to Produce Beeswax without reducing the crop of extracted honey is fully explained on page 360 of this issue. Remember this: The government needs all the beeswax you can produce for munitions.

• • •

Bees Sometimes Starve in June In parts of the clover region there is almost a dearth of nectar in early June, just prior to the time clovers begin yielding. This is one of the most critical periods of the year for bees. Very populous colonies that are low in stores frequently starve to death, especially during a spell of rainy, cool weather that does not permit bees to fly. Colonies should be carefully checked to make sure they have adequate stores.

• • •

Sugar for Bees After reviewing recent orders on sugar rationing regulations affecting beekeepers, page 367 this issue, we find, after consulting chairman of our local sugar rationing board that beekeepers using sugar for bees can make application with the chairman. Sugar is rationed at the rate of two pounds per hive per week, during the feeding period, the amount of sugar not to exceed 10 pounds per colony. The application is forwarded to the state office for ratification, then returned to local board for further attention.

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O. P. A. Issues General Maximum Price Regulation On April 28, 1942, the Office of Price Administration issued a General Maximum Price Regulation order which sets a ceiling price on most products not already covered by individual orders. Ceilings are established at the wholesaler, retailer, and producer, based on the highest price received by each during the month of March, 1942. By this order ceilings will vary by individuals to the same extent as they varied in March, 1942. The order is long and it is difficult to interpret some of its details without additional rulings. We have been informed by the Office of Price Administration that the Order applies to honey and beeswax.

The following is part of a letter received from the Office of Price Administration, Washington, D. C.:

"You are probably already aware that the General Maximum Price Regulation, which was issued on April 28, 1942, includes extracted honey as one of the commodities to be regulated. This recent order fixes the prices of extracted honey at the retail, wholesale, bottler, and beekeeper levels. The maximum price to be charged for extracted honey is the maximum price at which it was sold by the individual seller during the month of March, 1942. By this method the differences in prices for various grades and colors, which existed in the trade during March, will prevail. Lower prices than those established by this regulation may be charged, demanded, paid or offered.

"I suggest that you watch the newspapers very carefully during the next few days for any further announcements or interpretations, or if you desire, you may contact your nearest local O. P. A. office." (See later statement page 364.)

The General Maximum Price Regulation says in effect that no person shall sell or buy any commodity at a price higher than the maximum price charged or paid during the month of March, 1942. In the event the seller did not deal in the commodity during March he is to use the prices charged by the most closely competitive seller of the same class of goods.

In the case of honey March prices showed a wide variation. Many retailers at that time had not marked up their honey prices on replacement costs but based the sales price on the lower original cost of a month or two earlier. Many inequalities such as this will have to be worked out to prevent hardship in individual cases.

Producing More Wax Since the article, "Saving and Producing Wax" appeared in April, 1942, Gleanings, pages 213-215, we have received a number of comments and suggestions. Two beekeepers suggest that empty frames be alternated with drawn combs in supers. This sounds like a good suggestion. We have seen bees build a comb in a space inadvertently left vacant in a super or brood chamber. At least this is likely to happen during a heavy honey flow. This comb built in the vacant space during a rapid flow will consist mainly of drone cells. During a slow honey flow bees will leave patches of drone cells in supers empty, until all worker cells are filled. During a heavy flow drone cells will be filled quite readily.

One correspondent claims that the mid-rib of drone comb is thicker than the mid-rib of worker comb. If this claim is correct, then drone comb built in empty frames should mean more wax.

Using eight instead of nine combs in a ten-frame super will result in more wax. (See page 360 this issue.)

• • •

Honey Production Figures for '39,'40 and '41 Explained Referring to our editorial on this subject, on pages 292 and 293 of the May 1942 issue, we wrote to the Bureau of Agricultural Economics, asking certain questions, the nature of which will be evident from the reply that we received from W. F. Callander, Head Agricultural Statistician, In Charge Division of Agricultural Statistics. We know our readers will be glad to see this explanation presented herewith:

Dear Mr. Root: This will acknowledge receipt of your letter of April 22 to Dr. Jones. I am glad to say that Dr. Jones has improved in health and he expects to return to duty sometime soon.

The Honey Production report issued March 9, 1942, covering the years 1939, 1940 and 1941 was prepared by Mr. Paul W. Smith, who is an associate in Dr. Jones' Section. He had the benefit of several consultations with Dr. Jones, and prepared the estimate under the direction of Mr. Joseph A. Becker, the technical consultant of this Division. The estimates were based on annual returns from special honey reporters, a special mail survey for 1939 and 1940, reports from State Bee Inspectors and Extension Specialists, and on the United States Census for 1940.

The figures published by Mr. Clay from 1930 through 1936 are not strictly comparable with the present series. Mr. Clay's report states: "The following tabulation has been compiled from estimates made by men considered among the best informed in their respective States, but which in most cases are based on incomplete data". The estimates published were for the most part made currently and met a very definite need. However, these men were asked to give estimates for a period of years and many of them revised their earlier estimates on the basis of later information which they had obtained.

The 1940 Census of number of colonies of bees was incomplete in all States and the estimated numbers of colonies in the report of this Division were based mainly on the returns from State Bee Inspectors and Extension Specialists. The year to year changes agree very well with the year to year percent changes shown by returns from the annual December Honey Inquiry.

The Census data, although incomplete for colonies, did furnish an excellent yield sample for all States. The sample yield data from the December Honey Inquiry agreed very well with the Census yield data. The yield estimates of the State men tended to be lower than either the Census or the sample yield data.

You inquire concerning the increase in production of 34,000,000 pounds from 1930-36 (Mr. Clay's figures) to 1939-41 (estimates of this Division). The lower yields reported by the State men were partly responsible for this apparent increase. Consideration must also be given to the fact, that the average you used includes the longest period of successive drought years and the two worst drought years on record. The 1939-41 average production of honey could be expected, therefore, to be above the 1930-36 average. A mail inquiry has gone to our regular honey reporters annually since 1914, and the returns have been tabulated and summarized. These annual surveys will provide year to year indications of change in numbers of colonies and the production of honey per colony. It is our intention to publish estimates back to 1919 comparable to the present series, when these have been analyzed.

In preparing the estimates for 1939-41, we received excellent cooperation from the State Bee Inspectors and Extension Specialists, from private companies, from our special honey reporters, and from the officials of the Census Bureau.

Very truly yours,
W. F. Callander,
Head Agricultural Statistician
In Charge
Division of Agricultural Statistics

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Second Hand Cages for the Shipment of Package Bees Wire cloth happens to be one of the critical materials cited by the government and the question has been raised whether there would be enough wire cloth to take care of the package bee business for the 1942 season. Not infrequently, second-hand cages for package bees have been used over again, the cages being sent back to the shipper to be refilled with bees.

The question has been raised whether it was safe to do this on account of the possible transmission of AFB.

According to Dr. A. P. Sturtevant, Bacteriologist of Bee Culture Labora-

tories, at Laramie, Wyoming, it takes 50,000 spores of AFB in a cubic centimeter of feed to cause disease. A centimeter is equivalent to about one-third of an inch. It would take a very large number of these spores, therefore, to cause a disease—a number altogether beyond that which could be carried on the wire cloth of a cage.

Then comes up the question of syrup in the feed can of the cage. Syrup would be perfectly safe but on account of the scarcity of sugar, honey might have to be used in the feed can. In any case, the syrup can should be emptied and put in boiling water, then it could be filled with syrup or with honey from colonies free from AFB.

James I. Hambleton, in charge, Division of Bee Culture, head of all the bee culture laboratories in the U. S., thinks there is very little likelihood that the wire cloth would carry enough spores to transmit AFB. In a recent letter which he sent out he says:

> I quite agree as to the desirability of permitting free movement of used package bee cages, or at least their movement under proper certification. We feel that for the proper development of the beekeeping industry trade barriers should be abolished or, at all events, predicated on actual needs. . . . . This may be an opportune time for package shippers to consider slight changes in the design of cages to facilitate reuse and to make posssible longer life in transit.

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All but the Squeal of a Pig— Honey for Defense

Perhaps the reader will fail to see an intimate connection between these two dissimiliar propositions. Well, let's see. The meat packing industry makes a claim that it utilizes everything except the squeal of the pig.

The beet sugar industry uses everything. The by-product of vegetable matter, leaves, and molasses from beets after the sugar has been extracted exceeds in feeding value for stock per acre, the entire product of an average acre of corn, says the United States Beet Sugar Association. There are 19 states engaged in the production of the sugar beet which will or can supply one-fourth of the sugar requirement of the U. S. Without the sugar beet, the housewife would be in a much more severe predicament as to where she would get her sugar because the cane sugar industry in this country is relatively small. There is plenty of cane sugar on the islands and in points somewhat remote from the U. S., but the difficulty is to get it here on account of ocean shipping.

To show how important the sugar industry is, either cane or beet, it takes about 950 pounds of raw sugar to make the alcohol which, in turn, goes into powder used in each of the projectiles fired from the coastal defense guns. Or, to put it another way, it takes 3 tons of sugar beets to replace the sugar used every time one of the 16-inch guns is fired. Note this, Mr. Beekeeper, pound for pound, the production of honey releases more sugar for gun powder. Therefore, every pound of honey is releasing that much sugar to save the world for democracy.

Sugar is now rationed at 12 ounces per capita per week. The housewife will find that this is not enough to take care of her needs and will clamor for honey. The more honey she can use, the less of sugar she will require, and sugar helps to keep our 16-inch guns a-booming for defense.

To give one an idea of the amount of domestic beet and cane sugar produced in this country, the following table furnished by the Office of Price Administration will explain:

Area	Supply 1941	Estimated 1942
	——Short tons——	
Domestic beet sugar..	1,940,000	1,750,000*
Domestic cane sugar..	408,000	450,000
Philippines	854,000	None
Hawaii	903,000	500,000
Puerto Rico	993,000	1,100,000
Virgin Islands	5,000	5,000
Cuba	2,696,000	1,070,000
Other Foreign Countries	190,000	35,000
Miscellaneous (frozen stocks, etc.)	None	390,000
Totals.....	7,989,000	5,300,000

* The estimated beet sugar supply for '42 reflects reduced production from restricted acreage in 1941.

Unfortunately, on account of lack of ocean shipping, the sugar from the Philippine Islands, ordinarily amounting to a million tons, has been entirely cut off. Other sources of cane sugar, including the Hawaiian Islands, will not be able to deliver the usual amount. The substantial part of the Cuban crop, recently purchased by the Defense Supplies Corporation, must be converted into molasses for the production of alcohol.

Don't forget that the Government wants beeswax, thousands of tons of it, for munitions.

Therefore, Mr. Beekeeper, every pound of honey and wax that you can produce will help win the war.

From North, East, West and South

SOUTHERN CALIFORNIA, May 1

Weather: Cool, cold, cloudy weather continues day after day with now and then a sprinkle of rain but not enough to help the honey plants to any extent but enough to help grain so that many fields that looked hopeless a few weeks ago now show promise of enough to pay expenses. We remarked to a prominent beekeeper a few days ago, "Isn't this about the most unfavorable weather you ever saw during the blooming of the orange?" His reply gave us food for thought. He said, "Don't you remember the weather last year?"

And so it is. We soon forget. The old rule still holds good. Have your colonies up and ready and when there is any honey coming, you will get your share.

Honey Crop: Bees are working black sage. Weather has been unfavorable but bees have been gaining some on both sage and orange. We feel safe in saying that there will be some honey produced throughout Southern California but prospects for even a half crop are not favorable.

Prices: No prices have been quoted so far as we have learned. At present the prices spoken of are about four to five cents below what was paid by the brokers the last days of February when the restrictions on sugar were suggested.

Miscellaneous: Prospects for a poor season and a desire to get honey from any possible source has prompted beekeepers to move their bees to the orange groves in numbers greater than ever before. Many of the five and ten-acre spaces among the groves are planted to grain. This crop was so unpromising owing to the lack of rainfall that the owners probably thought that the few dollars a beekeeper would pay for the privilege of setting his bees there for a few weeks would be just that much money gained, consequently many apiaries appear in places where bees have never been seen.

Several meetings have been held by beekeepers throughout the state where discussions have been held regarding certain changes that are being proposed in our state laws concerning the moving of bees, registering and locating of apiaries as well as the treatment of combs from diseased colonies. The regulations being set up by the government relating to honey were also discussed at some length.

The majority of us beekeepers are fellows who have plodded along year after year, making what honey we could and selling to the best advantage. When it comes to a solution of the part honey is to play in the conflict we are in, the price it should bring, or the restrictions that would be fair in its uses, it is entirely out of our line or ability to say what is just and right to all concerned. One thing is certain: if the bees or the honey are to be factors in winning the war we want them used to the very best advantage.

Since writing the above we have talked with other beekeepers and it is pretty well agreed that the orange is over in so far as 1942 is concerned with one of the most unsatisfactory showings so far as the beekeeper is concerned that we can remember.

The rainfall is very spotted. Some localities received much more than others. In those favored localities with the greater rainfall some later honey will be harvested but we feel safe in saying, if Southern California gets one half a crop it will come up to our most hopeful expectations.—L. L. Andrews, Corona, Calif.

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NORTHERN CALIFORNIA, May 4

The weather for April belonged to the "unusual class". The last three days of March when we were expecting settled weather and the beginning of a long dry summer it was raining and continued to do so for the first week of April and off and on with plenty of cool days and nights till the end of the month. As far as the rain was concerned it was what beekeepers like but the cold days kept the bees in the hives where they were producing brood and building up rapidly on

honey left over and that gathered earlier in the season, the result being too much swarming.

Condition of Bees: Otherwise bees are in fine condition here in the Bay Region and now that the weather has settled they will soon make up what they lost by rain and swarming on the last of our honey flow. Our next trouble will be the result of our honey flow coming too early and ending before the alfalfa and lima bean is ready. To keep our bees in right condition requires good beekeeping and we are getting that by having a strong membership in our County Association which meets once a month with a good attendance and live interest. Where there is no eucalyptus and bees depend on early fruit and almond blossoms for building up they will be ready for the alfalfa flow. Where the eucalyptus is the principal crop the honey is already in the can. Some beekeepers report a good crop and others only fair. In the package bee and queen producing districts there exists a variety of conditions from difficulty of getting queens mated on account of rain to ideal conditions which have resulted in a complete sellout with plenty of orders yet to be filled.

Honey Market: The honey is of good color and density. The demand is so strong that the honey does not remain long in the hands of the producer, unless he belongs to the class that just holds.

Beeswax: The demand for beeswax at a good price is so persistant that beekeepers have difficulty in getting it ready before the buyer is on hand to pick it up. One firm of buyers is reported threatening beekeepers that if they do not release their wax they will buy substitutes. Strange how some people like to fool themselves.

Miscellaneous: It is difficult to understand why beekeepers everywhere are not availing themselves of the opportunity they now have of organization. There has not been a time in the past 20 years when conditions were so favorable to organization. We should grasp the opportunity to strengthen the organization of our state and county associations and keep them organized. Naturally we should not forget our national association but make it so strong that it cannot fail when the industry calls for its services.—Cary W. Hartman, Oakland, Calif.

TEXAS, May 2

The weather for April was a surprise to the beekeepers of Texas. The temperatures which have been below normal for three preceding months remained so during April. The drought of January, February and March continued until April 7 when during the seventh and eighth four inches of water fell. As is the custom in a semi-arid country this rain brought a large number of plants, particularly guayucan and mesquite into bloom. The colony weights which have been on the down trend since the beginning of brood-rearing continued until the 16th when the amount coming from the field offset the consumption of winter stores. One of the earliest and heaviest flows in this section occurred, the increase starting on April 16 and reached its high point on April 27. On the recording scale the low point is 119 pounds and the high point reached thirteen days later is 175.25 pounds. The flow stopped very suddenly; however, there is ample evidence that another flow will commence in which horsemint will be the chief contributor. Already honey buyers are visiting southwest Texas and buying up all of the new honey offered for sale. As nearly as can be estimated there has been almost no hold-over. All of the bees upon which reports have been made are in good condition and will be able to take advantage of any flows which may occur in the future.—H. B. Parks, San Antonio, Texas.

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COLORADO, May 5

Weather: Our winter held on at least a month longer than is usual. There was little springlike weather until after April 1. Beginning then we had beautiful weather for three weeks, and pollen began to come in, though almost a month late. But after these three weeks, or about the time dandelions and fruit trees began to bloom, we have had nothing but rain, cold weather, and cloudiness. As a

consequence many bees exhausted their supply of pollen, some their supply of honey; and a great many colonies lost their unsealed brood. This makes clear the need for keeping a reserve of pollen on each colony during the spring build-up period. (See Dr. C. L. Farrar's bulletin, E-531). During every spring in my memory there has been such a "spell" of weather. Of course, if it comes after the early flow as it often does, and a surplus of nectar and pollen have been stored, little setback will be experienced. This year, however, the bad weather hit already depleted colonies that had weathered one of the toughest winters in many years just as they had begun to expand their brood nests.

Moisture conditions are all that could be desired.

Bees: Where bees have been supplied with the requirements for brood-rearing, the colonies are in normal condition. All beekeepers in this area have had to do more feeding than in ordinary seasons. I talked to a man yesterday who has never fed sugar syrup before. He has drawn his full quota of sugar and is not sure that he will have enough. But if we should now have good weather bees can still be pushed to honey-gathering strength in time for the flow. Many of those colonies that have lost brood have lots of adult bees, and given favorable conditions will build up again rapidly.

Package bees have come in with little or no delay, and being provided with pollen and syrup are independent of the weather. They are building up nicely.

Miscellaneous: Honey plants look fine. We are hoping for an early flow this year, like we used to have in the "good old days". For the past four years, since the alfalfa weevil became so widespread, we have had little from the first bloom of alfalfa.

With no honey for sale by beekeepers in Western Colorado the market needs little comment. It may be stated that inquiry is still brisk, and new honey will surely find a ready demand. Our concern seems to be to get the honey.

Beekeepers, let us use this season of promised prosperity to get out of debt, and then to support our government to the limit of our ability by buying War Bonds with every extra dollar.—John W. Holzberlein, Jr., Grand Valley, Colo.

ALABAMA, May 5

Weather: The weather in April has been favorable on the whole. The nights were cool the first week of April and have been cool the last week. Little rain has fallen this month and although the plants are not showing need of moisture, rains will be needed soon for later plants. Flowers now in bloom are yielding nectar and pollen well.

Condition of Bees: The cold rainy weather of March delayed the blooming of nectar-yielding flowers and caused the colonies to use up their stores so it was necessary to feed. Colonies which were fed or which had an abundance of honey are in excellent condition. Even the weaker colonies are now in condition for shaking.

Package Market: Demand for package bees is heavy. Regular buyers have increased the size of their orders and there are numerous orders for one or two packages from beginners. Most Alabama shippers have sold all they can produce in April.

Honey Market: Very little honey remains in the beekeepers' hands. Honey has increased in price 4c a pound retail in chain stores where five-pound pails are bringing 85c. Local honey does not show the extremes of price shown by out-of-state honey and is little affected by price fluctuations.—Harry H. Laidlaw, Jr., Montgomery, Ala.

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MASSACHUSETTS, May 1

Weather: While the first of April has been cool and rainy, the past two weeks have been dry and unusually warm. Bees have been able to obtain sufficient pollen for brood-rearing, and strong colonies have obtained sufficient nectar for their needs and some surplus. Fruit trees are in bloom a week or two ahead of season.

Market: Retail demand for honey is better than usual, as the sugar shortage has made people turn to honey. Many who never gave honey a thought previously are now using it, and this should develop steady customers if they are furnished a

good product at a fair price. There does not appear to be any large stocks of honey on hand.

Miscellaneous: Commercial beekeepers are busy assembling equipment, and preparing colonies for orchard pollination. Brood-rearing has set a rapid pace due to warm weather, and bees are in much better condition for orchard pollination. Most colonies are stronger in bees now than they are ordinarily on May 15 after fruit bloom. Exceptionally strong colonies will require careful attention to prevent swarming during the next week or two.

Beekeepers are planning to fill all available hives this year for the production of honey, and several plan to purchase additional equipment for expansion. Demand for bees for orchard pollination exceeds the present supply.

The writer has fed very little honey this spring as the bees were left with a good supply of sealed honey for winter stores. All colonies have a surplus over normal requirements, and a few hundred pounds could be spared for extraction. However, honey is the best bee food for brood-rearing, and a super of honey turned into young bees will produce two supers of honey. So why extract the last ounce and starve the bees or have to feed sugar?—R. E. Newell, Holliston, Mass.

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NEBRASKA, May 6

Weather: The spring season has been cold and backward, accompanied by much cloudy weather and high winds. At this writing twelve to eighteen inches of snow blankets portions of the western part of the state.

Bees: Due to a late fall honey flow bees kept building up strength later than ordinary, and this extra strength resulted in many colonies starving to death before weather permitted attention. Extensive feeding has been necessary in many cases. Package buying has increased this year, stimulated by the increased price for honey and an increasingly heavy demand. Backward weather in the South caused shipments to arrive late and continued backward weather here has been unfavorable for starting packages.

Prospects: The crop outlook is the most favorable in ten years. Fall rains and winter snows make it possible to boast of good subsoil moisture for the first time in many years. As a result of fall moisture, an increase in sweet clover acreage was made possible. Realizing the invaluable pollenizing aid, farmers vie for the privilege of having our bees in their sweet clover tracts. Clovers are growing luxuriantly along roadsides, always a welcome sight to beekeepers. What grasshoppers will do remains to be seen.

Miscellaneous: Seldom do long-suffering fellow beekeepers have the opportunity to witness such a concrete backfire as that accorded to a price-cutting producer in our state. He celebrated Honey Week by advertising and selling clover honey at a retail price slightly above six cents per pound. As later events proved, this big producer could have made a small fortune on his cut-price offerings.

The excellent price for beeswax should be an incentive to salvage every scrap, the smallest scrapping, and to market all not-to-good combs. —Benj. Nielsen, Aurora, Nebr.

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BRITISH COLUMBIA, May 4

Weather: The past winter has been mild with little snow, and spring seemed close at hand by March 1 but cold nights after that retarded growth and pollen did not come in freely until the end of the month.

Orderly sequence of spring seems to have been broken this year and bees were working on willows, sunflowers, dandelions, and early cherries at one and the same time about April 15.

Packages generally arrived in good condition and cool weather helped and with fruit bloom held back bees will have a better chance to make the most of the short fruit honey flow on which to build up for the main crop.

There is little demand for colonies for orchard pollination as with export markets cut off, or in doubt, orchardists seem to feel that a large apple crop would be more or less of a disaster for them and shortage of labor also makes them adverse to risking a heavy job at thinning.

But with alfalfa seed selling at around 40 cents a pound the situation is different in the haylands and the bees are welcome there. We are hoping for better success this year

as owing to the drought last season this source of nectar was of very little help to us.

Conditions: Bees wintered very well on the whole but results were variable, some yards wintering 100% but others weak and close to starvation. We are beginning to think that good wintering is largely a matter of location in relation to shelter, fall honey flow, and early spring sources of pollen.

Local honey is practically nonexistent and there will be little difficulty in finding a market for the 1942 crop whatever its size.

Miscellaneous: An easement of the restrictions on the use of tin plate by the Metals Controller, allowing the manufacture of four and eight-pound honey cans up to 75% of last year's output has eased the container situation and we are hoping for some leeway in the use of 60-pound cans as most of B. C. honey is marketed in liquid condition and sixties are necessary for storage and bulk shipments.

Chief organization note of interest is that B. C. beekeepers will now have representation on the Canadian Beekeeping Council.

Mr. R. Hawthorne, Alberta, representative to the Council, addressed meetings of the B. C. Honey Producers' Association outlining the aims and work of that body and it was decided that the present problems facing the industry call for a united front and a united effort on the part of all beekeepers.—G. F. Pearcey, Kelowna, B. C., Can.

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ONTARIO, May 4

Weather: If we did not know what date this was and were asked to take a look out over the fields and orchards and make a guess as to the time of year, we would say "about May 20". Our guess would be about three weeks too late, as this is actually May 4. A very early spring here in central southern Ontario, and apple blossoms were actually noticed in a sheltered location on the last day of April. The Toronto observatory tells us that all records for heat in April for 100 years were broken. The last five days of April registered about 80 every day and the first two days of May were the same. Bees that are at a strength usually present a month later. Friends in Alabama tell me that the season is late there, and this combination of unusual conditions in the North and South has made it none too good for the package bee business. April was very dry in southern Ontario. Moisture is needed in many localities.

Prospects: Winter losses were very light and consumption of stores less than usual, spring work with the bees has been lighter than we experienced a year ago when the opposite conditions were very much in evidence.

If nectar should continue to come in from fruit bloom and dandelion as it has from willows and maples, we will expect swarming trouble before we can get through the bees for queen clipping and general examination of colonies. Many colonies have whitened combs and we have found a few with eggs in queen cells, an unusual condition for May 1. While bees are in good shape, unfortunately this cannot be said of clovers, as there is little if any alsike in our district, and unless we get heavy rains soon there are poor prospects for wild white clover.

Owing to the very early spring and good working condition of the land, buckwheat acreage will be small with us, as this crop is usually larger with us when a backward spring delays seeding of other grain, and buckwheat can be sown as late as mid-July.

Market: As to the honey market, it is at a standstill as there is almost none to be obtained. Beeswax continues in good demand but supplies have been pretty well cleaned up, and it would be difficult to get any large amount at any price.

Miscellaneous: No changes in gasoline or tire restrictions since writing, but as stricter rationing has been proclaimed in all the eastern states, we are expecting similar rulings here as well. Fortunately, little feeding of the bees has been necessary, at least in our locality, so not much sugar has been required for that purpose.

The matter of winter protection for the bees has been a prominent subject in Gleanings for the past few months, and at this date we are apt to try and forget about the matter until next fall. But a personal experience gleaned only last week prompts me to give the circumstances while fresh in my mind. A friend of mine bought an apiary of 40 colonies, situated just a mile from a 70 colony

apiary of ours. Last week my friend's doctor ordered him to cease from all work for a while owing to a heart condition, and I was asked to buy the bees. Last fall my friend having heard of the plan of wintering with little or no protection, and having no winter cases for these 40 colonies, decided to winter them in two stories, the top stories being jammed with good clover honey. They were all wrapped with tar paper that covered the hives completely, including the covers, the paper being well tied with binder twine. Entrances about four inches wide and half an inch deep were given to each colony with no provision for an entrance at top or any other place. Possibly conditions might have been different if some provision had been made for an upper entrance, but this is simply a guess on my part. Now as to conditions when we found them: Out of the forty, ten were either dead outright or with so few bees as to be worthless. Half of the remaining colonies were in a fair condition while the others will pull through and under normal conditions for the next few weeks, build up for main honey flow if we get one this year. There was an abundance of honey in all the colonies with many top stories solid. Moisture and mold were very much in evidence in all dead and weak colonies and in some others as well. After examining this apiary we drove the mile to our apiary of 70 colonies well sheltered and all packed in winter cases. This apiary was 100% perfect judging by external appearances and it would be safe to say that colonies were at least 50% stronger than the unprotected apiary just a mile away. Possibly larger entrances and provision in some way for ventilation might have made a difference, but it is safe to predict that my friend will never take chances again with a wrapping of tar paper as winter protection for his bees.—J. L. Byer, Markham, Ontario, Can.

Beeswax a Critical War Product

Regardless of the importance of honey when sugar is rationed, beeswax, the other product of the hive, is coming to the front rapidly as a critical war product. It is used both by the Army and by the Navy as a protective coating on munitions, airplanes, shoes, etc., for pharmaceuticals and medicines, and in chemical warfare. The needs are so great that a million pounds have been needed in war work so far. At the same time importations have been much smaller because of the difficulty in getting space in ships.

Under these conditions it is no wonder that the price of crude beeswax in March was about double the price of not much more than a year ago. An ounce is worth nearly as much as a postage stamp. A ton brings close to a thousand dollars. At such prices especially in localities where it is hard to get honey containers, and where markets are distant, it is not unprofitable to produce all the beeswax possible.

Under average conditions 1½ lbs. of beeswax may be produced from cappings for every 100 lbs. of honey. Another 1½ pounds are easily produced from burr combs and the occasional comb discarded. If only eight extracting combs are used spaced wide in a ten-comb super, the cappings from thick combs uncapped deep will weigh nearly two pounds per hundred pounds of honey. Sorting over the combs more critically, melting up all the crooked ones and those that have a lot of drone cells, can account for another two pounds of wax or four pounds in all for 100 lbs. of honey. This additional wax need not detract from the normal production of honey, and since a 100 lb. yield is not exceptional, we can approach a 25% increase in the production of beeswax and get a normal crop of honey besides.

Regardless of whether a normal crop of honey can be secured it is the patriotic duty of all beekeepers to produce a maximum crop of beeswax. for in spite of the need of honey, the critical need for the duration is beeswax. But no one need hesitate about adopting such a program, for keeping crooked combs in use, and especially those containing a lot of drone cells, is penny wise and pound foolish.

Here is a chance to be patriotic and at the same time improve extracting equipment for the future.

A Symposium

on Swarm Control and Methods of Supering

Conducted by the Editors

(Continued)

The subject of swarm control is so large that it is rather difficult, in this limited space, to give a comprehensive presentation. One of the best bulletins that ever appeared on swarm control was Farmers' Bulletin 1198 by George S. Demuth, Apicultural Assistant, Bee Culture Investigations, Washington, D. C., in 1921. Some copies may still be available at Superintendent of Documents, Washington, D. C. However, we are not certain about this.

Mr. Demuth stressed the importance of having young queens and providing adequate comb space for the ripening of incoming nectar and for brood-rearing. Congestion within a hive appears to be the prime cause of swarming.

Since that bulletin came out it has been found that the principles laid down are sound. And so, it is a case of beekeepers in various regions being able to apply these principles to varying conditions. Each beekeeper must make a study of conditions prevailing in his locality and be ready to apply correct apiary management to meet conditions. This is easier said than done.

Last month we heard from beekeepers in Pennsylvania, Indiana and Nebraska. This time we hear from Illinois, Ontario and New York. Mr. Hoyt Taylor, Pleasant Plains, Ill., leads off:

SWARM CONTROL WITH MAXIMUM HONEY PRODUCTION

By Hoyt Taylor

The method we have found most successful here in Central Illinois near Springfield is not unlike practices followed by others in many ways, but we do employ a few variations.

Our spring management consists of supplying colonies with an abundance of food in the form of combs well-filled with honey. We like to keep at least four full-depth combs that are well filled in each hive. We also check on pollen, and if the equivalent of two full-depth frames is not present we feed the mixture of soybean flour and pollen as is advised by Dr. Farrar.

As colony strength increases, as it should with stores and pollen a-plenty, we add full-depth bodies of drawn comb to the brood-chamber. Our aim is to get the queen to lay as much as is possible, expand the brood nest to the very greatest size, sometimes using four bodies on our best colonies for brood rearing (we winter in two 10-frame bodies); usually three bodies will provide ample room. As the weather gets warmer we start ventilating, not by merely having an inner-cover on top with an escape hole open, but by first raising tops and resting one end on the hive or top of rabbet, with the inner cover slipped back. As the weather becomes warmer we place the inner-cover on the hives upside down and crossways, with the metal top-cover on top in the natural position. If there is no inner-cover on the hive we just raise the metal cover and set it askew, letting it rest on all four corners of the hive. In addition, if the colony treated is very strong and we have the time we jack up the hive on the bottom-board by placing a one-inch square piece across the back and one-inch square blocks at each of the front corners between bottom-board and first hive body.

This is a lesson taken from package bee shippers and the bees shipped in packages. The idea of this extreme ventilation has proven its worth to us in practice.

With unlimited room for brood-rearing, young bees, pollen, nectar, ample ventilation and a good queen, we seldom have any trouble approaching the honey flow with any swarming. (In 1941 we averaged .03% swarms.)

Supering

When the honey flow breaks we simply add supers of drawn comb on

top or if necessary to the brood-nest where it will be more accessible to the queen if there is any swarming tendency left.

If we have to add bodies containing foundation we place them directly over the brood, on colonies having no swarming tendency.

With the breaking of the honey flow, our hives running over with workers, the fun starts. The nectar comes in so fast that as soon as young bees emerge the cells are filled with honey and the queen is forced down. We use no queen excluders on extracting colonies. The honey flow takes the place of the excluder. It is seldom that we have trouble where a queen is not forced down. By this time the swarming fever is over, additional storing room is added as needed and honey removed when sufficiently capped.

In running for bulk comb we pick our colonies at the beginning of the flow, placing the oldest brood and queen in one body on the bottom-board with a queen excluder on, then the cut comb supers on top. Care should be taken in selecting colonies for this business. We pick colonies of medium strength that have no swarming tendencies. Any brood and eggs taken from such colonies are placed on weaker colonies run for extracted honey. Care must be exercised in producing bulk comb to avoid comb being built from bits of wax carried up from cappings of emerging brood, and combs having cells containing pollen. It is usually advisable to keep some kind of super on top as lots of times bees tend to stain the top super of honey. We examine the combs from time to time for pollen, and when pollen is found we simply cut it out and replace the comb for the bees to rebuild.

Our method is in short as follows: good young queens, plenty of stores, ample room, real ventilation, with supers a-plenty to catch the surplus "if" the flow comes.

It seems obvious that proper supering goes along with swarm control. We note that Mr. Taylor supplies ample comb space (which means additional supers) in ample time, before the brood chambers become congested. He also ventilates his hives. This seems essential, especially during hot weather.

From Illinois we now hop over into central Ontario to learn how Huber G. Burke of Omemee, a successful commercial beekeeper with a number of out-apiaries, handles his bees for swarm control:

SWARM CONTROL AND SUPERING

By Huber G. Burke

In presenting my method of swarm control and supering I make no claim to have anything original but we use plans that have been described in Gleanings from time to time. We modify plans to suit the condition of colonies, location, and length of honey flow. We find that an apiary closely sheltered by evergreens or other windbreaks has more swarming impulse than colonies in an apiary out in the open and perhaps shaded by tall trees; therefore, such an apiary will require different treatment.

We winter bees in two-story ten-frame Langstroth hives, some packed in single winter cases and also some in four-colony cases. We clip queens during the dandelion flow, or, if rushed by other work, queens are clipped at the opening of the clover flow which commences about June 20 from alsike. Combs of honey and brood are taken from colonies oversupplied and given to others in need.

When bloom on alsike fields and fresh nectar in the combs remind us that the flow has actually commenced, truck loads of supers start moving out from our central extracting plant. Our usual method on reaching an apiary is to place each clipped queen in the bottom chamber below. We then put on a super or two of drawn combs, the number depending on the strength of the colony and the prospects for a flow. On top of these goes the other brood chamber containing brood in all stages, bees, and honey. Putting on the cover completes the operation. After the apiary has been treated thus, with plenty of comb space, bees will usually go to work without desire to swarm, for some time at least.

On our next trip around in about ten days, top supers containing brood are tipped up, front or back, to see how honey is coming in and a glance up will show if queen cells are in evidence. These top supers may be left on to be filled with honey when brood emerges, or set off on the bottom boards for increase. If left on, cells should be destroyed. Should another super of empty combs be needed it is placed on top of partly filled ones. We rarely place empty supers of combs under unless manipulating certain colonies that are determined to swarm.

Another time saving method we

sometimes use is to place a queen excluder over double brood chamber after cover has been removed; put on one or two supers of drawn combs and replace the cover. Super space is added on top as needed. One objection we have found to this plan occurs especially if the flow is not heavy. Bees will plug the brood chambers full of honey and almost refuse to go above. A swarming epidemic will usually follow which would not have happened if the former method had been used.

As this locality has a buckwheat flow all ripened white honey must be removed before it commences, about the first week of August. If weather is warm and sultry swarms may emerge in spite of plenty of comb space. At such times we do not have time to examine all colonies for the swarming impulse but examine only those that by outside behavior show the swarming fever is present. If queen cells are found, combs of brood are removed and empty brood combs or foundation put in to give the queen laying space.

In these days of war with its needs it is imperative that we strive to produce large quantities of quality honey and we must ever be on the alert for new methods that will cut down on trips to outyards and unnecessary manipulation of our bees.

What Mr. Burke says about double brood chambers becoming clogged with nectar during a slow honey flow applies also to this locality. The only remedy for such a situation is the raising of brood from the brood chamber into the supers and replacing with empty combs or foundation, in order to relieve congestion in the brood chamber, which, as already stated, is the chief cause of swarming. If a slow, or intermittent flow is accompanied by sultry, showery weather which keeps the field bees at home the swarming fever is further intensified. A change from stormy to fair weather favorable for nectar secretion will frequently cure a swarming epidemic, because congestion in hives is relieved due to hordes of bees leaving for field work.

Our next contributor is Leroy C. Keet of Watertown, N. Y., a 1000-colony beekeeper, who seems to have a novel method of swarm control which he describes as follows:

SWARM CONTROL AND SUPERING

By Leroy C. Keet

For the past 20 years I have successfully used the method of swarm control that I am about to describe and during this period my bees have averaged close to a hundred pounds per colony with about 3% swarming. Watertown is located in northern New York and our winters are quite severe. My bees are all wintered in cellars, some in single ten-frame hives and some with a shallow super on top. The hive body has only eight frames—two having been taken out to make room for a feeder that fills this space and remains in place the year around. I am now operating a thousand colonies with the aid of one helper and I do not believe in cutting cells to prevent swarming. If I had to go to all this unnecessary work it would take most of the joy out of beekeeping and cut down production. Many beekeepers run their bees in two-story hives and practically all of them that I know have the disagreeable task of cutting out queen cells. And no matter how much extra room they are given above, those cells will develop when two hives of brood are kept together. This trouble can be prevented if done at the right time and in the right way.

In the springtime and before the main honey flow, whenever my bees fill a hive body of brood another one is added and at the beginning of the clover flow many colonies occupy two and three hive bodies of brood. But no matter whether it is two or three the method of procedure is the same. As the new clover honey begins to arrive it is important to have everything ready. Stacks of supers are stored in my outyards and my queen excluders are all under the hive covers, so that they'll be handy to get hold of quickly, for, in the next few days we are going to accomplish the work that will do away with swarming for the rest of the season. Thousands of young bees are now hatching every day which will soon bring about that crowded condition that leads up to swarming. But we do not intend this to happen. The queen is put in the lower story and a queen excluder is put on. We do not look up the queen to do this but give them a good smoking from the top and by spreading the combs and blowing the smoke in between. Not all of the queens will go down—but no harm. They will be looked up later when there is more time.

With the queen below the excluder a shallow super of empty combs is put on and the upper story of brood placed on top of that. Another super of drawn-out combs is placed on top of that. I prefer the shallow supers at this time, but a full-depth super can be used for the top one. We now have the brood divided by a shallow

(Continued on page 378)

Just News

The Tri-County Bee Association of Delphos will hold its annual field meet at the bee yard of Mrs. Pearl Leininger, three miles east of Delphos on U. S. Route 30 South, on June 28.

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The Middlesex County Beekeepers' Association will meet at Featherland Farm, Sudbury, Massachusetts, on Concord Road, one mile north of Sudbury Centre, on Saturday, June 27, at 2 P. M. Each family will bring its own basket picnic supper. Hives will be opened and beekeeping problems discussed.

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Carl Henry Tudor, a prominent beekeeper of Illinois, an apiary inspector and charter member of DeKalb-Kane Beekeepers' Association, passed on March 31.

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Several beekeepers from Adams and Union County (Ia.) attended a meeting at Corning on April 17, at which time the group adopted a constitution for the organization and elected officers. The association will be known as the Adams-Union Beekeepers' Association. The officers elected were: Ed Weeks, Corning, president; Mrs. C. R. Corey, Creston, vice president; W. H. Sparboe, Corning, secretary-treasurer. Mr. Howard Shipton, assistant extension apiarist, gave an interesting talk on spring management of bees.

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With the thousands of clubs in Chicago, Mrs. Irene Duax has given a great amount of publicity to honey. In the last two months she sent material to the New World which has three million readers in Chicago and nearby cities. She has prepared a long article for The Sunshine Reporter published at Detroit and nationally circulated to health food stores. She also has an article in the May issue of Women, the magazine for Illinois Catholic Women's Clubs, Illinois 4th District. Mrs. Duax is a speaker for Illinois Household Science on Honey Cookery, besides many other activities which give her an opportunity to promote general interest in honey.

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In the "Who's Who in Apiculture," page 300, May, 1942, under North Carolina, bees are admitted into the state by permit secured from the Office of the Department of Agriculture and not by a certificate of inspection. Also: L. M. Gates, Lincoln, is State Inspector of Nebraska, and Ralph Barnes of Oakland, president of the state organization.

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The Hygroscopic Properties of Honey is the title of an excellent paper by E. C. Martin, Cornell University, reprinted from the Journal of Economic Entomology of Dec. 4, 1939. The author expresses his indebtedness to Dr. E. F. Phillips for guidance and assistance in its preparation. Copies of this reprint can doubtless be obtained from the author, E. C. Martin of Cornell University, Ithaca, N. Y.

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The 26th annual meeting of the Arkansas Valley Beekeepers' Association was held in Wichita, Kansas, April 18, 1942. The meeting was well attended and beekeepers were much encouraged over the price of honey and beeswax and the great demand the war has created for them. Our state apiarist, Dr. R. L. Parker, and other out of town speakers were present and discussed the following subjects: Aid in Pollination Work, Increase in Honey Production, Increase in Wax Production, and Increase in Honey Consumption. The following officers were elected for 1942: Mr. N. Carreau, President; Mr. O. A. Bradford, Vice-president; and Mr. Leroy Churchman, Secretary and Treasurer. —Leroy Churchman, Sec.

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RELEASE FROM THE OFFICE OF PRICE ADMINISTRATION, MAY 14, 1942

Extracted honey is covered under The General Maximum Price Regulation at all levels, including retailer, wholesaler, bottler, importer and beekeeper, Administrator Leon Henderson, Office of Price Administration, ruled today in an opinion directed to the attention of the trade. However, comb honey is excluded from the regulation as a raw agricultural commodity.

The Administrator ruled that extracted honey is covered by the regulation because it is a processed and not a raw agricultural commodity. Operations such as straining or centrifuging constitute processing. These

are used in making extracted honey.

Under the GMPR, the maximum price which may be charged by an individual seller to a purchaser for extracted honey is the top figure at which it was sold to a purchaser of the same class, but not necessarily the same purchaser, during March, 1942. By this method, differences in prices for various grades and colors and for the several services, quantities and discounts which existed in the trade during March will prevail. Lower prices than those established by this regulation may be charged, demanded, paid or offered.

OPA requests honey industry representatives to contact their nearest regional office on further questions of interpretations. These offices are located at Boston, Mass., New York City, N. Y., Atlanta, Ga., Cleveland, Ohio, Chicago, Ill., Dallas, Tex., Denver, Colo., and San Francisco, Calif.

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"THE LIFE OF LANGSTROTH"

Owing to a vigorous ancestry, I am perhaps the only one living among those connected with the industry who came frequently in contact with the subject of this sketch, namely, L. L. Langstroth, during the last few years of his remarkable life. It was indeed a rare pleasure to sit at the feet of this Gamaliel and to listen to his stories of the early beekeeping days. In the early 70's he came often to see my father. When I listened to him I wished we could have a stenographer to take down his history in his own language, and now we have it.

Fortunately, for beekeeping, the author of the above-named book, Miss Florence Naile, found the Langstroth journal in which he kept a record of his work, and in this journal is the story of the Langstroth hive, the bee space.

Miss Naile visited Langstroth's old home in Oxford, Ohio. At the time she was Secretary of the Ohio State Beekeepers' Association. She had just begun the study of bees, was imbued with all the enthusiasm of a novice and when she began to get track here and there of some of the instances of Langstroth's life, she conceived the idea of writing a book—especially after she discovered his old journal which is now preserved in the Langstroth Memorial Library at Cornell University.

When this book was laid on my desk about three o'clock Saturday afternoon, I read it clear through at a sitting, taking only time enough to eat my evening meal before I got clear through it.

The story is well told of his invention of the Langstroth hive, of a patent that was granted to him covering new principles, especially that of a bee space, and of how others tried to steal from him his invention; of how in later years he was vindicated by all the leading beekeepers of the country as the original discoverer of a principle that revolutionized beekeeping. Of how his movable frame enabled some people to produce carloads of honey where only a few pounds were obtainable before.

The story of Langstroth's life is remarkable, almost tragic in places. It is regrettable that a man who did so much for the industry was able to get so little, financially, out of it.

While the book is not large, every modern student of bee culture who desires to go deep into the background should secure a copy. It has been well stated that "the book is a labor of love for the author," who has dedicated the royalties to the Langstroth Memorial at Cornell University. It was edited with a Foreword and Introduction by Dr. E. F. Phillips. Price $2.50, postpaid. We shall be glad to take orders for it.—E. R. Root.

"Well, the bees get along all right without a dictator."

Asked and Answered

Proper Use of Queen and Drone Trap

Question.—Can I put a queen and drone trap on my beehives in the spring and leave it on until winter? If not, when can I, and how can I tell if it's time to put it on?—Wm. H. Thiele, New York.

Answer.—Yes, it is possible to put a queen and drone trap over the entrance of your hive this spring and leave it on until late next fall. However, we doubt the advisability of doing this, first, because continuous use of this device tends to impede the progress of a colony, especially during a heavy honey flow. Furthermore, in the event of the old queen being superseded by a young queen, this young virgin queen could not get out of the hive, through the drone trap for her mating trip, and consequently she would die and the colony eventually become hopelessly queenless. Queen breeders sometimes use drone traps to catch undesirable drones. Drone traps are useful at times during the summer season when the owner of the bees is obliged to be absent from the apiary during the middle of the day when swarms usually issue. When a swarm comes out, the queen, not being able to leave the hive with the swarm because of the queen trap, goes up into the small compartment directly above the main entrance and is trapped. The owner of the bees, upon examining the hive along in the late afternoon when he returns to the apiary, will find the queen trapped in the small compartment. He can then go through the brood chamber of the colony and do whatever needs to be done, usually destroying all queen cells and removing full combs of brood from the brood chamber into the supers above, and thus relieving the congestion in the brood chamber. The queen is, of course, liberated from the queen trap.

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Feeding Granulated Honey

Question.—How should I feed my bees some old honey that has turned to sugar?—Curtis Cruea, Indiana.

Answer.—If the honey you have came from a hive of bees that is free from disease, it would be all right to feed it by mixing it with water, in the proportion of 75% honey and 25% water. It would be necessary, of course, to heat the mixture in order to liquefy the granulated honey. The mixture should not be made hotter than the hand can bear. Feeding should be done late in the evening to avoid getting the bees stirred up too much.

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Amount of Sugar Needed for Packages

Question.—How much sugar do I need to start four swarms of bees, as I see that the Government has made an allowance for sugar for bees. I'm starting them on comb foundations.—Delbert S. Harper, New York.

Answer.—As you are starting swarms of packages of bees in hives containing frames with comb foundation you should allow at least ten or fifteen pounds of sugar for each hive. It is possible that ten pounds would let you out. However, some springs are quite cool and bees are kept in their hives during long periods, in which case packages of bees require considerable sugar syrup.

• • •

Uniting Weak Colonies

Question.—How can I unite two weak colonies? Should I kill one of the queens before letting them join together?—Archie H. Tate, Nebraska.

Answer.—You can unite two weak colonies by placing one hive on top of the other, with a thickness of newspaper between, the paper punched with a few small holes made with a lead pencil, to admit air into the upper hive. It appears to be an advantage to do the uniting rather late in the evening when all of the bees are at home and with as little disturbance as possible. If you have no preference as to queens, they will fight it out and the stronger of the two queens will likely survive.

• • •

Using a Package for Two-Queen System

Question.—When using the two-queen system is it possible or a good idea to use a 2-pound package of bees with queen for the upper unit?—Amos J. Charles, Pennsylvania.

Answer.—There seems to be no good reason why a package of bees with queen could not be used in the upper unit of a two-queen hive. You can, if you choose, give the upper unit a few combs of brood, after shaking the bees from the combs. The advantage of using a package would seem to be that all of the bees put into the upper unit would stick, or stay put, whereas, a portion of the bees taken from the lower unit and put into the upper unit would likely return to the lower unit, especially the older bees.

SUGAR RATIONING REGULATIONS AFFECT BEEKEEPERS

All previous regulations with respect to how beekeepers could obtain sugar have been superseded and henceforth beekeepers should comply with sugar rationing regulations effective April 20, 1942, contained in Rationing Order No. 3 of the Office of Price Administration.

The pertinent paragraphs in the new reglations, as they affect beekeepers, are given below. Beekeepers who failed to register as industrial users should do so if they need sugar now or are likely to need it in the near future. There is no way for a beekeeper to obtain sugar unless he does register as an industrial user.

"1407.82 **Prohibited deliveries.** On and after April 28, 1942, notwithstanding the terms of any contract, agreement, or commitment, regardless of when made, no person shall make delivery of sugar to any registering unit, and no registering unit shall accept delivery of sugar from any person except upon the surrender to such person by the registering unit pursuant to Rationing Order No. 3 of a Certificate having a total weight value equal to the quantity of sugar so delivered; except that any sugar which at the time of registration has been included in present inventory pursuant to Section 1407.84 may be received without the surrender of Certificates.

"1407.84 **Present inventory.** The present inventory of a registering unit is the aggregate of all sugar in the possession of, or intended to be used by, the registering unit, to which, at the time of registration, the owner of the registering unit has title or holds documents of title, or which was in transit or stored for delivery to the registering unit and out of the possession of the vendor, prior to April 28, 1942. The owner shall be deemed to have title to sugar regardless of the fact that it may have been mortgaged, pledged, or otherwise used as security in a credit transaction, or that its use may have been prohibited by any order of the War Production Board. Every person who owns one or more registering units must include all sugar to which he has title (except sugar held for personal use and sugar in the possession of his vendor) in the present inventories of such registering units, allocating such sugar among those of his registering units as he selects.

"1407.85 **Sugar base.** (a) The sugar base for a registering unit proposing to use sugar for any product or purpose other than the products or purposes set forth in Section 1407.241, Schedule A of Rationing Order No. 3, is, for any month, the amount of sugar used by the registering unit for such product or purpose during the corresponding month of 1941.

(b) If a registering unit proposes to use sugar for any product or purpose other than those listed in Section 1407.241, Schedule A of Rationing Order No. 3, but did not use sugar for such product or purpose in each month of 1941, its sugar base for such product or purpose for each month may be at the option of the registering unit, the amount arrived at by dividing the total quantity of sugar used for such purpose during the period from January 1, 1941, to April 28, 1942, by the number of months the registering unit was in business during that period. In making this computation any period in excess of 15 days shall be deemed a month.

"1407.87 **Provisional allowance.** (b) A registering unit proposing to use sugar for the feeding of bees is entitled to a provisional allowance for such purpose. The amount of such provisional allowance is to be determined pursuant to Table VI of Schedule A, Section 1407.241.

"1407.88 **Application for Certificate.** Application shall be made by each registering unit desiring a provisional allowance or allotment on OPA Form No. R-314 (Application for Sugar Purchase Certificate by Institutional and Industrial Users.) Only those registering units which have properly registered on OPA Form No. R-310 (Registration of Institutional and Industrial Users) may apply. The application shall be presented for filing and shall be signed by one of the persons authorized to file and sign OPA Form No. R-310 at the registration site, if the application is being made at the time of registration, or at the office of the Board. The issuing officer in whose presence the Form is signed shall witness the signature and certify to the execution thereof and shall also insert on the Form the designation of the **Local Rationing Board** having jurisdiction over the registering unit.

"1407.92 **Sugar to be used for purposes designated.** Except as is otherwise specifically provided in Rationing Order No. 3, the sugar received by a registering unit shall be used by it only for the purpose or purposes stated in the application for the Certificate pursuant to which the registering unit received the sugar.

"1407.93 **Late registrations.** A registering unit which is not registered on April 28 or 29, 1942, may thereafter be registered at the office of the Board. The present inventory of the registering unit shall, under such circumstances, be computed as of April 28, 1942, and the registering unit shall not be permitted any provisional allowance or allotment for any periods that may have elapsed.

"1407.94 **Reports and records.** (c) A registering unit using sugar during any month for packing or processing any of the products listed in Section 1407.241 Schedule A, or for feeding bees, shall, on or before the 15th day of the following month, file with the Board a written report of the use of sugar for each of such products during the past month, except that the report made during June, 1942, shall be for the period from the time of registration to May 31, 1942. The report shall set forth the number of units by sizes of each product packed or processed (and the number of bee colonies fed by weeks), and the quantity of sugar used in connection therewith. In the case of the products listed in Tables I and II of Schedule A, Section 1407.241, except fruit juices, there shall be included as a separate item the number of cases of each product packed or processed in terms of cases of 24/2's and 24/2½'s, respectively, on the basis of the conversion table set forth in Table III of Schedule A. In the case of fruit juices the quantity packed or processed shall be expressed in terms of gallons.

(d)All registering units shall preserve for a period of two years at the office of the registering unit records showing by months the amounts of sugar received by the registering unit and the person from whom received, the use made of such sugar for each product and purpose listed in Section 1407.241, Schedule A, and Section 1407.242, Schedule B, and the amount of each product processed, except that institutional users shall not be required to keep any records of the amount of any product processed.

"1407.241 **Schedule A: Table VI. Bee feeding.** In order to determine the number of pounds of sugar to be allowed for any

(Continued on page 380)

Talks to Beekeepers

M. J. Deyell

Sees No Fun in Getting Stuck in Mud

Since the appearance of Talks to Beekeepers in the May issue, I received a letter from a good friend of mine, T. C. Johnson, of Logansport, Indiana, a part of which will be self-explanatory:

"I got a great kick out of your story in May Gleanings, but I don't see where you could get any fun out of getting stuck in the mud and putting on chains and getting wet. I got stuck on my first trip to the out yard this spring. I was alone and had no chains, but I had a spade and found some stove wood and finally got out in about two hours of good hard work, digging and carrying stove wood. All I got out of it was a lot of soft mud all over me and a very lame back the next day. But I must take things different than you do, for I saw no fun in it. But I do get a great kick out of seeing fresh nectar in the combs, especially when stores are getting low. Well, if you get stuck again I hope you have a good time getting out."

Well, I may as well admit, Mr. Johnson, that I did not feel overly "angelic" at the time I was wading through the mud, carrying boards and pushing on the truck. However, I had a helper, and a good one at that. You were alone. If I had been in your place I might still be hung up in the mud.

Readers may be interested to know that the remainder of the colonies in the apiary were eventually moved, after the ground became dry.

Most of Us Are Born Blind

I mean by this that most of us are likely to do a lot of foolish things in connection with handling bees, and after we have made mistakes we wonder how we could have been so short-sighted. If we would stop once in a while, long enough to analyze the situation or problem ahead of us, taking into consideration every possible angle of approach, then act as wisely as possible, we would avoid many costly mistakes, and incidentally, we would make more profit from our bees. It seems that most beginners have to learn by the trial and error method. This is a good way to learn, but the tuition comes rather high.

A Few Observations

—Entrance Diagnosis. We can learn something about what is going on inside of a hive by watching the bees as they fly from and return to the hive. In fact, it seems wise to spend a few minutes watching the behavior of the bees, before opening hives.

When bees are gathering nectar they leave the hive rather quickly, fly up into the air, usually in a spiral fashion, then start for the fields. When these bees return to the hive, they make straight for the entrances and frequently hit the alighting boards rather heavily and dart into the hives. One can usually tell by the manner in which bees alight at entrances whether or not they are filled with nectar. Bees full of nectar appear much larger than bees that are empty.

When bees are flying about rather aimlessly, apparently in search of nectar, and return to the hives without a full load, they may be seen to fly up and down, or waver, in front of the hive entrance before entering, instead of hitting the entrance rather heavily, as they do when loaded with nectar.

Beekeepers in suburbs of towns and cities should manipulate colonies only during the warmest part of the day when bees are working well. If hives are opened and combs removed while bees are not getting nectar freely, the bees may resent being handled, may start robbing and thus cause trouble in the neighborhood. It is entirely possible to keep bees in a fairly thickly populated area, if the owners use good judgment in selecting the proper time for manipulating hives. Under no circumstance should combs of honey be left standing outside of the hive or uncovered for any length of time. If beekeepers in suburban areas would be more care-

ful in handling bees, there would be fewer complaints about bees becoming a nuisance, than there are today.

Poverty-stricken vs. Rich Colonies

Years ago, before the majority of beekeepers learned how to winter bees successfully to produce populous colonies early in the season, quite a number of beekeepers used to worry about weak colonies in the spring and what to do with them. A few beekeepers still worry. It seems obvious that with the right sort of apiary management throughout the season, there should be practically no weak colonies in the spring. We find, however, that about one to five percent of our colonies in most of the apiaries fizzle out during the winter due to failing queens, even among colonies that were requeened the previous fall. Does someone have a solution to this problem?

A few days ago I helped to check a yard of 94 colonies that were very populous last fall, and (with the exception of two colonies that were inadvertantly neglected, and died) had a superabundance of honey and pollen. I never saw a more uniform yard of bees. There was only one weak colony and it had a laying queen and two small patches of brood. The queen was being held back because of an insufficient number of bees to take care of the eggs she was capable of laying. Well, here's what we did: We placed this queen in a cage with a small amount of candy in the end, between the top bars of two frames. After closing the hive we shook bees from six combs taken from strong colonies, in front of the hive containing this weak colony. These combs had a large percentage of young bees that had just emerged. These young bees crawled into the hive and, of course, the few old bees that were on the combs returned to the hives from which they were taken. I am anxious to look into that hive the next time we visit the yard. We caged the queen because there was danger of the bees that were shaken in front of the hive, killing the queen. It hardly seems likely that the young bees added to the weak colony will harm the queen after she has been released from the cage.

This method of shaking young bees in front of a weak colony seems preferable to giving a weak colony a comb of emerging bees, because a weak colony may not be able to take care of all the brood.

Returning to this strong or prosperous colony problem, there are a number of things that can be done with these populous colonies to prevent their reaching their peak of strength too early, before the main honey flow starts. What is, or should be done, depends on conditions that prevail in respective localities or areas throughout the country. For example, in the sweet clover area where the main honey flow starts in June and continues during July and part of August, it is possible to divide the brood and honey in a populous two-story colony during the fruit bloom and dandelion honey flow, giving the queenless division a young laying queen. These divisions, properly managed, will build up into populous colonies that will be ready to take advantage of the main honey flow. It is very necessary to provide ample food for both divisions. Dividing should not be attempted unless food (combs of honey or sugar syrup) are available.

In a region where the honey flow starts relatively early and is of rather short duration, such as an alsike clover region, dividing colonies may not be advisable.

Two-queen systems advocated and used by W. E. Dunham of Ohio State University, also by C. L. Farrar, Madison, Wisc., appear to have merit because they utilize the brood and bees in very populous colonies. We do not have space here for details other than to state that Dunham divides the brood, honey, and bees and introduces a young queen into a third story queenless brood chamber, the old queen being confined to the

(Continued on page 373)

Some shade for bees during hot months is an advantage. Too much may be detrimental.

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 8 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 10th of month preceding.

HONEY FOR SALE

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

NEW comb and extracted ready about the last of July. H. G. Quirin, Bellevue, Ohio.

WILL HAVE more Tupelo honey May 20th. Marks Tupelo Honey Co., Apalachicola, Fla.

No. 1 CLOVER comb honey, $3 case; amber or buckwheat, $2.75; new crop July, higher. C. B. Howard, Geneva, N. Y.

COMPLETE line comb and bottled honey, pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

HONEY FOR SALE—We buy and sell all kinds, any quantity. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich Street, New York.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Co., 1360 Produce St., Los Angeles, California.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

SOLD OUT of Michigan clover honey, thanks. New 1942 crop should be ready for the market in July. Then, we will be pleased to hear from all our customers. E. D. TOWNSEND & SONS, Northstar, Michigan.

FOR SALE

Big Value BEEKEEPER'S HOIST, $17.50 Corning, Iowa. Adds comfort to longer lives. T. B. Turner.

QUEENBEE PAINTING outfits $1.00 postpaid. Southwick Apiaries, Waban, Massachusetts.

BEE supplies, quitting business, 5 West, 2 South of Sandusky, Mich. William Burger, Route 1, Sandusky, Mich.

FOR SALE—75 comb honey supers with sections and foundation. State inspected. Floyd Blackman, Mt. Upton, N. Y.

SLIGHTLY used 2-frame Reversible extractor with 12" pockets. Also uncapping knife. Fred Wiemer, Denison, Iowa.

FOR SALE—We accumulate bee supplies at our warehouses, slightly shopworn and fully serviceable, but discontinued for lack of sale. Write for complete bargain list. G. B. Lewis Company, Watertown, Wisconsin.

FOR SALE—Good used 2-frame reversible extractor, hand or power, $12.00. John J. Sueper, 114 Des Moines St., Webster City, Iowa.

WAX worked into high quality medium brood foundation, 15c pound; 100 pounds, $12.00; thin super, 22c. Fred Peterson, Alden, Iowa.

COMB FOUNDATION at money-saving prices. Plain, wired and thin sections. Wax worked at lowest rates. Comb and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

THE ONLY complete line of wax rendering equipment ever offered—the "Perfection" Line. A size and type suitable for every commercial beekeeper. Write for descriptive circular. Robinson's Wax Works, Mayville, N. Y.

4-FRAME Root Automatic Reversible extractor. Good as new, has been run less than sixty hours. Also ¾-inch honey pump. List price of both $79, will sell for $50. R. H. Gillespie, 1500 Arch Street, Little Rock, Arkansas.

25 10-FRAME hives, body, top, bottom, no frames, $1.50 each. 50 8-frame hives, body, top, bottom, no frames, $1.00 each. Factory goods, used, painted, good condition. No disease. Albert Hann, Glen Gardner, New Jersey.

SAVE MONEY by letting us work your wax into wired or regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices, as we have no agents. Walter Kelley Co., Paducah, Kentucky.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

CASH PAID FOR carloads and less than carloads of extracted honey. Send sample and best price. C. W. Aeppler Company, Oconomowoc, Wis.

WANTED—White and amber honey; any amounts. D. F. Treap, 5.7 Keenan Ave., Cuyahoga Falls, Ohio.

WANTED — Light amber honey. Send price and sample. C. W. Yergey, 429 Lincoln Ave., Pottstown, Pa.

WANTED—Honey and beeswax. Mail samples, state quantity and price. Bryant & Cookinham, Los Angeles, Calif.

CASH PAID for extracted clover honey. Send sample and best price. Clover Bloom Honey Co., Gen. Delivery, Shrewsbury, Mass.

WANTED—Comb, chunk comb, white and light amber extracted honey. Any amount. Central Ohio Apiaries, Millersport, Ohio.

HIGHEST cash returns made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Ky.

WANTED—White clover and light amber honey. Any amount. Cash at time of delivery. Clover Blossom Honey Co., 712 Kossuth St., Columbus, O.

WANTED—Extracted honey in ton lots or more. Send sample and quote price delivered here. C. J. Morrison, 1235 Lincoln Way West, South Bend, Ind.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

WANTED—We pay cash top price for clover honey in 60-lb. tins. Any quantity. Send samples and best price. Cloverdale Apiaries, F. M. Babcock, Fredonia, N. Y.

CASH PAID for extracted white clover or light amber and comb honey. Send sample and best price to: Honeymoon Products Co., 39 E. Henry St., River Rouge, Michigan.

WANTED—Honey for storage. We operate Federally licensed warehouse and issue negotiable receipt in exchange for your honey. Low storage rates. Write for particulars. Hamilton & Company, 1360 Produce St., Los Angeles, Cal.

BEES AND QUEENS FOR SALE

BRIGHT ITALIAN AMERICAN QUEENS, 50c each, June price. D. W. HOWELL, Shellman, Georgia.

CHOICE bright Italian queens, northern bred for gentlene s and hustlers. 75c each; dozen, $8.00 Em l W. Gutekunst, Colden, N. Y.

OVER WEIGHT packages and young queens at a price you can afford to pay. Can fill early orders. Write D. P. Green, Deland, Fla.

GOLDEN Italian queens, good workers and gentle to work with; untested, 50c each, and tested, $1.00. Satisfaction guaranteed. Carolina Bee Company, W. O. Curtis, Mgr., Graham, N. C.

CAUCASIAN BREEDERS ONLY. Laying queens, 75c; tested, $2.00; 2-lb. pkg. and queen, $2.30; 3 lbs., $3.00. MILLER BROS., Rt. 1, Three Rivers, Tex.

CAUCASIAN BEES AND QUEENS. 2-lb. pkg., $2.25; 3-lb. pkg., $2.75. Untested queens, 75 cts. each. Write for prices on quantity lots. Lewis & Tillery Bee Co., Greenville, Ala.

FOR SALE—After June 10th, certified bees, 40 cents per pound, you supply cages. Queens, 50c. Gallberry tupelo chunk comb. Tomato plants, $2.00 thousand. A. V. Dowling, Valdosta, Ga.

FOR SALE—A complete apiary, located in the white clover section of New York State, that averaged over 200 pounds per colony the past season. For particulars, address Bargain, care Gleanings.

THREE-BANDED Italian bees and queens of extra fine quality; also extra fine honey-gatherers. 2-lb. package with queen, $2.00 each; 3-lb. package with queen, $2.50 each. Untested queens, 50c each, any number. A health certificate with every shipment. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

WANTED—White and amber extracted honey. Fancy comb, also No. 1 comb honey. Comb honey in shallow extracting frames. Beeswax. We render old comb into wax. Prompt remittance. Write us.
THE FRED W. MUTH CO. • CINCINNATI, O.

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn

QUEENS
Italians - - - Caucasians
75 cents each
Weaver Apiaries
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LEST YOU FORGET
the good rule to go by—Buy your Italian and Bees and Queens from
Alabama Apiaries
Uriah, Ala., R. F. D.
2-lb. pkg. with queen, 1 to 24.....$2.50
2-lb. pkg. with queen, 25 to 100.... 2.35
3-lb. pkg. with queen, 1 to 24..... 3.20
3-lb. pkg. with queen, 25 to 100.... 3.00
Queens, 1 to 24, 75c; 25 to 100, 70c; 100 up, 65c
Our aim—
Once a Customer, Always a Customer.

HOMAN'S
Vigorous 3-Banded Italian
Bees and Queens
If you want good honey producers, try these for they are as good as you can buy. Full weight and satisfaction guaranteed. Prices:
2-lb. pkg., $1.80; 3-lb. pkg., $2.40.
Queens, each, 50c
Homan Bros.
Shannon, Miss.

Mountain Gray Queens

June until November

No package bee orders accepted but we are operating three large queen yards and will appreciate it if you will send us your orders for queens ahead of shipping dates.

Good queens—good service!

Prices: 1 to 49, 60c each
50 to 99, 55c each

BOLLING BEE CO.
BOLLING, ALA.

QUEENS

By return mail

When you pay for good Bees and Queens . . . .

Be sure that you get them by ordering Norman's. We have been breeding the 3-Banded Italian for 22 years and we feel sure that you will be pleased with them. Our apiaries are inspected every year by the state inspector. There is no disease in ours.

2-lb. package with queen.....$1.60
3-lb. package with queen..... 2.00
Untested mated queens.....each, .40
All packages f.o.b. express. Safe arrival and satisfaction guaranteed.

NORMAN BEE CO.
Route 2 Ramer, Ala.

Three-Banded Italian Bees and Queens for 1942 . . . .

2 lbs. bees and young laying queen....$2.20
3 lbs. bees and young laying queen.... 2.80
Queens ..... .60

10% discount to dealers

J. P. CORONA
Box 124 Kenner, La.

CANADIAN QUEENS

Our own choice Italian Queens, ready as early in June as weather will permit, 75c each. Tested, $1.25. Southern queens until our own are ready, at same price.

Package bees. Nuclei. Full colonies.

Quality Bee Supplies.

LORNE SHELLY, Troy, Ont., Canada

Hello, Folks!
Here We Are Again

STEVENSON'S LINE-BRED GOLDENS

Thanks to our many customers for their great patience in waiting for us.
June prices: 2-lb., $2.45; 3-lb., $3.15
Queens, 75c.

STEVENSON'S APIARIES
Westwego, La.

GOLDEN QUEENS — Excellent quality. Gentle, productive, health certificate. Satisfaction guaranteed. 50c. O. E. Brown Route 1, Asheboro, North Carolina.

LEATHER-COLORED Italian queens, 50c each. We cooperate with good honey producers in selection of breeding queens and believe our stock to be as good as you can buy. Diemer Bee Co., Liberty, Mo.

THE Norma Roy Apiary, 3 pounds with queen, combless, $2.75; 3 pounds with queen, 1 comb, $3.25. Queenless package, deduct 50c. Live delivery and a health certificate with shipment. Norma E. Roy & Son, Hessmer, La.

EXTRA YELLOW Italian queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested, 50c each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, N. C., Rt. 2.

PACKAGES AND QUEENS—Our Hustler strain, 3-band Italians, get the honey. 2-lb. package with queen, $2.50; 3-lb. package, $3.20. You will be pleased with the Weight, Quality, and Service that we give you. Caney Valley Apiaries, Yancey Bros., Owners, Bay City, Texas.

EARLY PACKAGE BEES—Prompt shipment begins May 1. Two-pound package bees with queen, $2.45; 3 lbs., $3.15. Add 25c postage for each package. Choice Italian queen, 75c. Safe arrival guaranteed. Birdie M. Hartle, Reynoldsville, Pa.

CAUCASIAN package bees and queens, high quality, long-tongued, gentle, prolific. June prices: 2-pound package with queen, $2.25; 3-pound package with queen, $2.75; queens, 60c each. Safe arrival and satisfaction guaranteed. Skinner Bee Co., Greenville, Ala., Route 1.

FOR SALE—Northern bred Italian queens, good honey-getters, winter well, handle easily, not much inclined to swarm. Safe arrival guaranteed. 45 years breeding experience. Queens by return mail after June 1st to 10th: Unt., $1.00; 3, $2.75; 1 Sel., $1.25. I. F. Miller, 183 Valley, Brookville, Pa.

HELP WANTED

MAN familiar bee supplies, honey packing; steady employment. Superior Honey Company, 3759 Wazee St., Denver, Colorado.

MAN to help harvest extracted honey. 1000 colonies. Aug. 1st to Dec. 1st. Year around work for right man. Ernest Sires, Stanfield, Oregon.

WANTED—A thoroughly experienced bee man for steady employment in large commercial apiary. State age, height, weight, amount of experience and wages expected in first letter. Will pay good salary and bonus to right party. Geo. E. Smith, Rt. 2, Yuba City, California.

WANTED TO BUY

WANTED—Good, new or used, honey pump. Prefer reduction gear. Overbey Apiaries, Bunkie, La..

MAGAZINES

THE BEE WORLD—The leading journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free, 12 cents stamps. Membership in the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free. Yearly 7c6d. Apply Editor, Indian Bee Journal. Jeolikote, Dist. Nainital, U. P. India.

READ the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, P. O. Box 43, Cleveland, Johannesburg, S. Africa.

WESTERN CANADA BEEKEEPER, official organ of the Manitoba Beekeepers' Association, one year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $1.60. Wallingford Building, Winnipeg, Canada.

MANY beekeepers have proven raising fox, mink, nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine telling how. Fur Trade Journal of Canada, Box 31, Toronto 2, Ontario.

THE BEEKEEPERS MAGAZINE increases each month in circulation because it brings you the NEWS. It's the beekeepers' own magazine. Don't miss the next issue No free copies. Single copy, 10c; 1 yr. subscription, $1. THE BEEKEEPERS MAGAZINE, Rt. 3, Lansing, Mich.

SEEDS

SWEET ANISE SEED produces an abundance of fall nectar. $1.00 package seeds fifty feet. Hollyhock seed free for pollen. Herman Richter, 401 No. K St., Tacoma, Wash.

TALKS TO BEEKEEPERS

(Continued from page 369)

bottom chamber, and retains the two queens until the beginning of the main flow, then disposes of the old queen and unites the two colonies over the same bottom board. Farrar uses a similar method. Both queens are used until the close of the main flow, then the younger queen is retained and the old queen destroyed. Farrer claims that such a populous united colony late in the season is more likely to store the necessary amount of pollen for winter and early spring, than a colony less populous in bees. He may have something.

During the past few years we have done some experimenting with the two-queen system but wish to continue further experiments before reaching conclusions.

Putting on Supers—Early

Many carloads of honey are lost because beekeepers fail to put on supers in time. It does no harm to have two or three supers on each hive when the main flow starts, instead of putting them on after the flow starts. When supers are put on early the bees get accustomed to going up into the supers and thus the brood chambers are less congested. When the major flow actually starts, the bees will enter these supers more naturally and readily than they would if supering is put off until after the honey flow begins.

Unless swarming symptoms are prevalent we add fresh supers on top of the pile, instead of underneath, or directly above the brood chamber. Life is too short for any unnecessary labor. The secret of top supering is to get the supers on in plenty of time, before the brood chambers become congested.

Package Bees Italian Stock. Prompt Express shipment. 2-lb., $2.50; 3-lb., $3.20; 4-lb., $3.80; 5-lb., $4.40. Young laying queens included. Quantity discount. No disease.
CRENSHAW COUNTY APIARIES **Rutledge, Alabama**

Queens ❖ Queens ❖ Queens
Garon's Progeny-Test Queens
Also DAUGHTERS OF STOCK BRED FOR RESISTANCE TO A. F. B.
Clipped or by Airmail at No Extra Cost.

Prices for both strains:

1-24	$0.60
25-99	.55
100-500	.50

Keep currently supplied with our quality queens. We produce them until late Fall.

GARON BEE COMPANY, DONALDSONVILLE, LA.
Telephone 8614 **Telegrams .... Western Union**

Moore's Strain

Away back in 1879 I commenced rearing Italian queens with the object of improvement constantly in view.

By careful selection during all these years I have succeeded in producing a strain of three-banded, leather-colored Italian bees, known as MOORE'S STRAIN OF ITALIANS, which has won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Send for descriptive circular and read reports from those who have tried them.

Untested queens, 50 cents each.

J. P. MOORE, R. 3

Falmouth, Ky.

Former address, Morgan, Ky.

Safe arrival and satisfaction guaranteed.

Three-Banded Italians

Shipped Fresh From Our Yards
Within 24 hours after receipt of your order.

Packages with Queens

	2-lb.	3-lb.	4-lb.	5-lb.
1-24	$2.25	$2.85	$3.45	$4.00
25 up	2.00	2.60	3.20	3.75

Young laying queens, 60c; 25 or more, 55c; 100 or more, 50c each.

Queenless Packages, deduct price of queen.

Citronelle Bee Co.

Citronelle, Ala.

ITALIAN QUEENS

Reared by Hollopeter, the finest we know how to produce, and enough for all. Choice untested queens, 75c each; 10, $7.00; 25 or more, 60c each. Tested, $1.50. Breeders, $5.00 to $10.00. Safe arrival and satisfaction guaranteed.

WHITE PINE BEE FARMS
ROCKTON, PA. LOCK BOX 80

SPECIAL

Extra heavy packages of young bees and good queens. Fill all hives you have. Add bees to your weak colonies. We supply the best at all times. **3-lb. packages with queens, 1-11, $2.50; 12 or more, $2.40; 2-lb. packages, 1-11, $2.00; 12 or more, $1.90.; selected queens, 1-11, 55c; 12 or more, 50c. Queenless packages deduct 50c ea.**

N. B. SMITH & CO.

Calhoun, Alabama

Mack's Queens

(They Speak for Themselves)

Hardy Northern Bred Italians, guaranteed to equal any queens produced in America today. A breeder for over a quarter of a century. Until further notice price will be 60c each.

HERMAN McCONNELL

(The Bee and Honey Man)

Route 2 Robinson, Illinois

Package Bees

St. Romain's "Honey Girl" Italians

A large supply for May and June

2 lbs. bees with queen..$2.25
3 lbs. bees with queen.. 2.85
4 lbs. bees with queen.. 3.40

Quality — Service — Safe Arrival. State Health Certificate with each shipment.

A. D. St. Romain Apiaries

Moreauville, La.

CARNIOLAN QUEENS :

MY CARNIOLANS WILL NOT PROPOLIZE COMBS

Queens, 65c each postpaid; over ten, 60c. Airmail 5c per queen extra.

EPHARDT'S HONEY FARMS - - - PLAUCHEVILLE, LA.

Better-bred Queens

Don't let that poor colony drag down your profit. Requeen it. Add bees to it. It can be made to produce. Order what you need at these low prices:

Three-banded Italians

2-lb. pkgs. with queen..$1.75 each
3-lb. pkgs. with queen.. 2.25 each
4-lb. pkgs. with queen.. 2.75 each
Queens ..... .50 each

CALVERT APIARIES — Calvert, Alabama

Packed vs. Unpacked Colonies

(Continued from page 331)

And so, barring possible unfavorable conditions for production of honey this coming season, further information on this little experiment should be forthcoming in due time.

We started a similar experiment in two out-yards (one of them 80 miles away) last fall, but due to shortage of labor and rubber we have been unable to continue the experiment in these out-apiaries.

Of course, I realize that the results of this rather meagre experiment, if attained, may not tell us much. "It takes more than one swallow to make a summer." But to me there is something tremendously intriguing about this business of wintering bees in the North and apparently there is yet much to learn about it. I have read every bulletin on this subject that I can lay my hands on. When authorities, so-called, are not in entire agreement, what is the layman to believe? I hope that I may live long enough to know more about what actually goes on within a cluster of bees during the winter in the North.

QUEENS of Quality 40c each

By Return Mail

Bright 3-Band Italian Bees and Queens of Highest Quality. Purely mated. Safe arrival and satisfaction guaranteed. Packages express collect. Health certificate furnished with each shipment.

Mail your orders TODAY and be among our MANY SATISFIED customers.

Untested queens	$0.40
Tested queens	.80
2-lb. package with queen	1.60
3-lb. package with queen	2.40

JOHN A. NORMAN

Ramer, Alabama Route 2

Quality Italian Queens

at 45c each

From selected stock bred for resistance to A. F. B. and the famous light three-banded which are known for their honey gathering as well as their gentleness to handle. (Caged on shipping day.) No C.O.D.

1-24, each 55c; 25 to 49, each, 50c; 50 on, each 45c. For air mail please add 5c each.

PLAUCHE BEE FARM
Hamburg, La.

SHAW'S

Three-Banded Italians

For 19 years, this famous strain of Italians has pleased the most exacting honey producer, and has made me friends wherever purchased. Try them and make this a profitable season.

In addition to the above strain, I will be able to supply you with queens, and a limited number of packages from stock bred for resistancy to disease. Colonies averaged 200 lbs. here in Mississippi, the past season—and this is no honey state.

As it costs nothing to book your order, and will be to the advantage of both of us, do it early. Safe arrival and satisfaction guaranteed.

Prices after May 15th—either strain:

Lots of	Queens	2 lbs.	3 lbs.
1-24	$0.60	$2.25	$2.90
25-99	.55	2.10	2.70
100-499	.50	1.95	2.50

If queenless packages are wanted, deduct price of queen.

A. E. SHAW, Shannon, Miss.

Progress Says . . . .

"Air Condition For Safety"

It's Here! It's Modern! It's New!

Air Conditioned Truck for Handling; Air Conditioned Room for Holding Packages at Correct Temperature

from the time they are taken from the hive until they are placed in express cars. **No Overheating, No Agitation, No Fright, Kept Calm, Kept Cool, Kept Clustered and Satisfied**

And Remember: We give you a quality product and all of this EXTRA SERVICE that no other shipper offers, at NO EXTRA COST. That's why

Puett's Perfect Packages Are Best

Quantity and Prices	1-24	25-100	100 up
2-lb. pkg. with queen	$2.50	$2.35	$2.20
3-lb. pkg. with queen	3.20	3.00	2.80

Untested Italian Queens, 75c; Tested, $1.25; for queenless pkgs., deduct 70c

The PUETT COMPANY

HAHIRA, GA.

MERRILL'S

Quality Bees and Queens

Prices on Packages with Queens

2-lb. pkgs. with queen	$1.75 each
3-lb. pkgs. with queen	2.25 each
4-lb. pkgs. with queen	2.75 each
Queens	.50 each

If queenless packages are desired, deduct price of queen. If larger packages or larger number is desired, write us.

• • •

Merrill Bee Co.

Bucatunna, Miss.

Mississippi's Oldest Shippers

Berry's Reliable Bees and Service

3-banded Bees and Queens Only

48 Years of Selection of the Best

After 48 years of careful selective breeding, not all of the time in a commercial way, but as large honey producers, therefore breeding for our own use as well as others, we have a three-banded strain of Italian bees, gentle, disease-resistant, and unexcelled for honey production. Our breeding queens are procured by a selection of the best queens from thousands of honey producing colonies taken from our apiaries in the Northwestern States.
We guarantee safe arrival and entire satisfaction. Prices as follows:

One queen in each package

	2-lb. pkgs.	3-lb. pkgs.	4-lb. pkgs.	5-lb. pkgs.
1-12	$2.05	$2.55	$3.05	$3.55
12-up	2.00	2.50	3.00	3.50

Purely mated queen bees, 60c each

Boost your honey crop by using Berry's Booster packages. Nothing beats adding a few young bees to strengthen a colony at the opening of a honey flow. Try it and watch results.

M. C. Berry & Company

Box 684

Montgomery, Alabama, U. S. A.

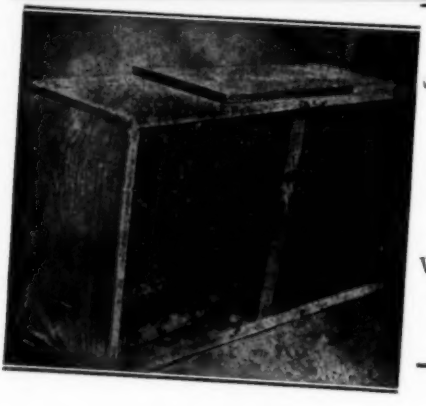
RELIABLE SERVICE RELIABLE PACKAGE BEES and QUEENS
THREE-BANDED ITALIAN BEES and QUEENS

Price List, Via Express Collect

	2-lb. pkgs.	3-lb. pkgs.	4-lb. pkgs.	5-lb. pkgs.	Queens
1-24	$2.25	$2.90	$3.50	$4.05	$0.60
24-99	2.10	2.70	3.25	3.75	.55
100-499	1.95	2.50	3.00	3.45	.50

Prices via mail quoted on request. Pure mating, safe arrival, prompt shipment, quality bees and Queens guaranteed.

W. E. HARRELL **Hayneville, Alabama**



ITALIAN BEES

with laying queens produce honey and strengthen weak colonies.

After June 1

2 Pound Package with Queen $2.85

3 Pound Package with Queen $3.75

Write for prices on 10 or more packages.

THE A. I. ROOT CO.

Medina, Ohio

FOR BUSY DAYS

(Continued from page 343)

squares melted chocolate, and 1 teaspoon vanilla.

Melt shortening, add buttermilk and beat with a dover beater. Add eggs and honey and beat again. Sift and measure flour; resift with soda, baking powder, and salt. Add to first mixture, beating well. Stir in melted chocolate and vanilla. Drop batter in well-greased muffin pans and bake in a moderately slow oven, 325 degrees F. Just before removing from oven sprinkle with sweet chocolate bits and allow to partially melt.

Honey Fruit Cup

One-fourth cup honey, 4 very ripe bananas, ½ cup crushed pineapple, and crisp lettuce.

Mash bananas or pass them through a sieve. Blend honey, pineapple, and banana pulp. Chill thoroughly. Garnish with lettuce and top with honey sweetened whipped cream. Fresh pineapple may be used, in which case it may be necesssary to use more honey.

Honey Mocha Custard

Two cups milk, scalded, ¼ cup ground coffee, 2 egg yolks, few grains salt, 3 tablespoons honey, 1 tablespoon cornstarch, 2 tablespoons cocoa, and ¼ teaspoon almond extract, optional.

Heat scalded milk with coffee grounds for about 5 minutes. Pan should be covered. Strain. Add sufficient additional milk to make 2 cups. Beat egg yolks slightly, add salt, and honey, then the cornstarch and cocoa. Mix well. Add milk and coffee infusion; cook over hot water, stirring constantly until thick. Let cool. Add almond extract. Chill.

Aurora, Nebraska.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

Get **PLANT'S** *Bees*

Higher Production **More Profit**

THREE-BANDED ITALIANS ONLY

More gratifying results at harvest time is our aim in producing and preparing your package bees.

Reports from our customers as well as results in our own honey yards prove that they really are superior honey-getters; also are more hardy, gentle and prolific.

We guarantee full weight, safe arrival, satisfaction, and no disease. State health certificate sent with each shipment.

Package prices include queen

	queens	2 lbs.	3 lbs.
1 to 24	$0.75	$2.50	$3.20
25 to 99	.70	2.35	3.00
100 to 499	.65	2.20	2.80

For queenless packages deduct price of queen.

If larger packages are wanted, write for prices. Orders shipped on date you specify.

Over 30 years experience

W. E. PLANT

Route 2

Hattiesburg **Mississippi**

PACKAGE BEES WITH QUEENS

THREE-BANDED ITALIANS

	2-lb. pkgs.	3-lb. pkgs.
1-4	$2.50	$3.20
25-99	2.35	3.00
100-499	2.20	2.80

Queens—75c each

Order as early as possible to be sure of getting bees.

The Crowville Apiaries

J. J. Scott, Prop.

Winnsboro, La. **Rt. 1**

Northern Package Bees

Made up of young bees, no disease, full weight, close to northern producers, headed by our Empire State strain Italian queens.

3 lbs. with young queen, $3.50 **2 lbs. with young queen, $2.75**

Also nuclei and full colonies for sale.

B. B. Coggshall & Son **Groton, N. Y.**

Caucasians

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers —10% ahead of Italians.

Carniolans

Prolific at all times, very gentle, build beautifully white combs, most excellent workers. Best for Western and Northern conditions. Have supplied many Agricultural Colleges and Experiment Stations with them. 35th year with them. Ask for free paper. Prices: Untested queens, 1 to 5, 60c each; 6 or more, 50c each. Tested, $1.00 each. By Air Mail, 5c extra per queen.

ALBERT G. HANN
Glen Gardner, New Jersey

PETTIT'S PACKAGE BEES

Sold out and Thank you. Write for Summer prices on Queens.

MORLEY PETTIT
Tifton, Georgia

FOR SALE

Bright yellow and three-banded queens. Nothing but the best. Write for prices.

GRAYDON BROS.
Route 2 Greenville, Ala.

Symposium

(Continued from page 363)

super and if it should happen to be a three-story colony another shallow super should be placed between the two upper stories of brood. To make this more plain, all stories of brood above the queen excluder should be separated by a shallow super of empty combs, with one empty super on top. Full-depth supers separate the supers of brood too much and the result is a quantity of cells in the upper supers of brood. When the shallow supers are used, very few cells appear above the queen excluder.

The empty super at the very top will be filled with honey first—believe it or not—but try it anyway. When it is found partly full it is then put under the upper super of brood, and another empty super placed on top. Full-depth supers can be used from now on, and as long as there is brood in the upper super the partly filled top super should be placed just under whenever a new empty super is added on top. Now what do we have? The bees will be drawn up into this stack of supers, there will be no congestion of bees in the lower brood nest because they will have to take care of the brood upstairs and they have two or three partly filled supers of honey to cover and if this is all brought about at the right time and at the beginning of the honey

PEP 'EM UP Pep 'em up with our PROGENY-TEST stock and our stock bred for "RESISTANCE". Replace all old and poor queens with either of our stock and see those colonies develop. 10% off on packages. Refer to ads, or write.

Prices—Queens: 1-25, 60c; 25-100, 55c; 100 or more, 50c.

BESSONET BEE CO., Donaldsonville, La. Add 10c per queen for stock bred for resistance.

3-BANDED ITALIAN QUEENS **FOULBROOD RESISTANT QUEENS**

BRED IN ISOLATED YARDS

If you want A F B Disease Resistant Queens we have them. Good honey gatherers plus A F B Disease Resistant Qualities at no extra cost. For Caucasians see our January Ad.

After June 1—1 to 24, 60c; 25 to 99, 55c; 100 or more, 50c each.

723 C Street JOHN G. MILLER Corpus Christi, Texas

flow there will be no cause for swarming, and there will be no bees hanging out in front and no cells to cut.

The weaker colonies that don't have brood in two stories have to be treated differently. Upon my next trip to the yard and I find they still haven't brood in the second story, part of the brood from below is lifted up. Then the brood is divided with the shallow super the same as the rest. This method may be a little dangerous if the honey flow should stop suddenly. You are going to be caught with a lot of partly filled supers. So if you have any suspicions that the honey flow is about to stop, just place the empty super on top and don't put the partly filled one down.

In conclusion, swarming is caused by congestion of young bees in the brood nest and giving the queen more room below will not relieve the situation. Something has to be done to draw these bees above and the divided brood above the queen excluder gives them something to take care of. The bees will also store above and not crowd the lower brood nest. I have used this method for twenty years and I am going to keep on using it until I hear of something better.

Here again Mr. Keet emphasizes the importance of relieving and avoiding congestion in hives. The shallow super appears to justify its existence. At least it is lighter to handle than the deep super.

Thrifty Bees

Combless Packages and Queens

Three-Banded Italians

Package prices include an untested queen. For queenless packages, deduct price of queen. For larger packages or quantities, write us.

	Untested Queens	2-lb. pkgs.	3-lb. pkgs.
1 to 24	$0.60	$2.00	$2.55
25 to 99	.55	1.90	2.40
100 to 499	.52	1.75	2.25

Fifty years' experience assures you of the finest stock and good service.

W. J. Forehand & Sons

Fort Deposit, Ala.

Breeders Since 1892

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

No kin to old Mussi, but good Italian stock. Full weight packages, first quality queens. Prompt, Dependable, Courteous and Honest Service. Prices as low as conditions will permit. After May 20:

2-lb. packages, any number..... $2.00
3-lb. packages, any number..... 2.50
Queens, any number..... .55

Be sure of your choice of shipping date by booking order early.
No charge for this booking.

SULLIVAN, WRIGHT & CO., Gilbertown, Ala.

NORMAN BROS. PACKAGE BEES and QUEENS

BRIGHT 3-BANDED ITALIAN QUEENS 50c each **BY RETURN MAIL**

At this low price now is the time for you to start with NORMAN BROS. young, vigorous, healthy package bees and queens. You will have less winter loss, better colonies next spring. Our twenty years of experience assures you of the best stock money can buy. Safe arrival and satisfaction guaranteed in every respect.

2-lb. pkg. with queen—$2.00 each
3-lb. pkg. with queen— 2.50 each

Package bees f.o.b. express; if wanted by parcel post, add postage.

Norman Bros. Apiaries : : Ramer, Ala.

We have what we know to be the Ideal bees and queens. We breed the Italians, also the dark bees. Fill your hives now, and have honey tomorrow. We would suggest you give your small colonies a booster package of bees.

2-lb. pkg., with queen, $2.30

3-lb. pkg., with queen. 3.00

Queens .....each, .60

Queenless packages deduct price of queen.

Write, wire or call.

The Ideal Apiaries

Lena, South Carolina

Spend today and save tomorrow. Buy bonds and stamps, and lick the other side.

Sugar Rationing Regulations

(Continued from page 367)

period for feeding bees multiply the number of colonies of bees to be fed during the calendar year by 10 and multiply the product by the quotient obtained after dividing the number of weeks during which the bees are fed within the period for which the application is made by the total number of weeks such bees are fed during the full calendar year. For example, assuming a registering unit feeds 50 colonies sugar during the calendar year and that the bees are fed during five weeks of the year, two of which are in the period for which the application is made, the provisional allowance will be determined as follows: 50 x 10 x 2/5 equals 200".

May 6, 1942.—From U. S. Department of Agriculture, Bureau of Entomology and Plant Quarantine, Beltsville, Md. Announced April 288, 1942, by the Office of Price Administration.

TOO LATE TO CLASSIFY

TAKE OFF honey with BEEGONE. Pint, express paid, $1.00. Honey House, Adrian, Mich.

FOR SALE—Select colonies bees, hives, supers, foundation. Guaranteed no disease. Ralph Hibbard, Calcium, N. Y.

FOR SALE—Ninety colonies bees, standard equipment, extractor. Sickness. Bees guaranteed disease free. Honey House, Adrian, Mich.

HONEY. WE PAY HIGHEST PRICES. Strained comb or beeswax. Write for quotations. Seifert & Mann. Since 1887. So. Water Market, Chicago.

Save Time & Money! Less Muss! Better Honey!

with the

Bradshaw Demountable Uncapping Tub, Table and Press

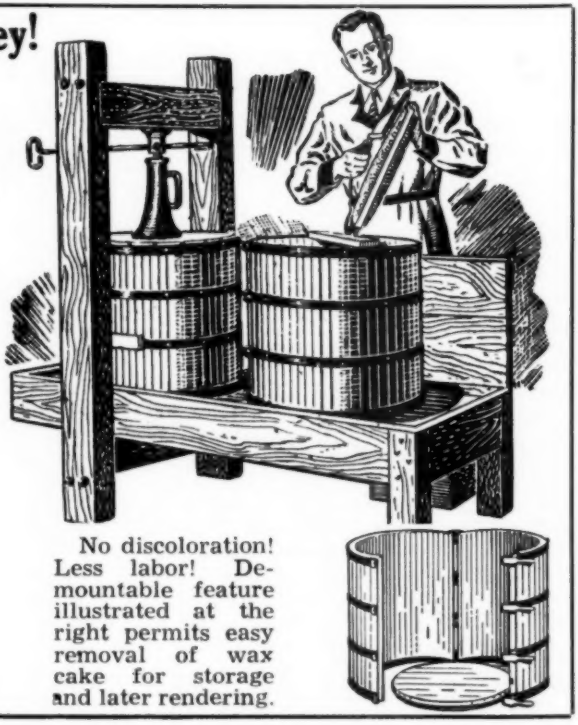
Build this tried, tested, uncapping unit yourself from detailed plans we will furnish you for only $2.

Correct spacing of staves (very important) permits rapid flow, prevents clogging, saves up to 98½% pure honey from cappings.

SEND $2 FOR COMPLETE SET WORKING PLANS

Includes construction details and instructions for any size operation. Address

R. D. BRADSHAW & SONS
Dept. 10, Wendell, Idaho

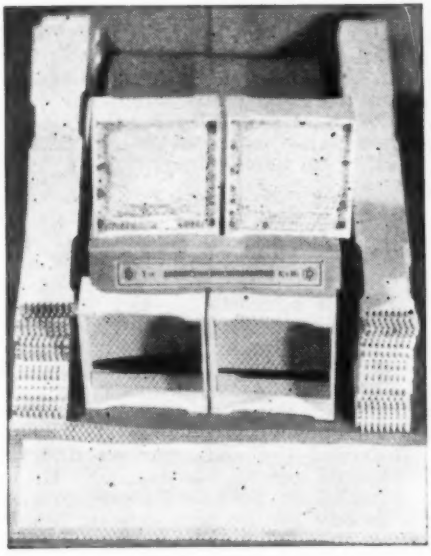


No discoloration! Less labor! Demountable feature illustrated at the right permits easy removal of wax cake for storage and later rendering.

What is

PATRIOTISM?

Considerable difficulty may occur in trying to secure enough tin containers for the 1942 honey crop. After all, the first job is to win the war. If material for containers is needed for urgent war uses, the latter must come first.



Glass will have to play its part in selling the 1942 crop more than ever before. Cartons may be difficult to secure. Have you considered that sections are their own containers? It is urgently recommended that comb honey be produced for local sales in 1942. This will release strategic materials for war use. After all, we want to help win the war.

HONESTLY MADE——HONESTLY SOLD——HONESTLY PRICED

LEWIS BEEWARE

STANDARD OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863

Home Office and Works: Watertown, Wisconsin

Branches: Albany, N. Y. Lynchburg, Va. Springfield, O. Sioux City, Ia.

Have you ordered your

Package Bees?

If not, do not delay. The demand has been so heavy that many have not gotten the shipping dates requested during April.

Honey prices are up and the demand cannot be met at this time.

Do your part in winning this war by filling all available equipment and supplying all the food you can (honey).

You will be pleased with our service and packages once you have tried them.

2-lb. package with queen, $2.25 each, any number

3-lb. package with queen, $2.85 each, any number

"THEY PRODUCE"

State health certified.

Rossman & Long

Box 133 Moultrie, Ga.

KNIGHT'S

Leather-Colored Italian

Package Bees and Queens

The Best Honey-Gatherers

2-lb. pkgs, including queen, $2.00
3-lb. pkgs., including queen, 2.50
4-lb. pkgs., including queen, 3.00

Select young laying queens, guaranteed mated pure, 50c, any number. No charge for clipping. Immediate shipment.

JASPER KNIGHT

Hayneville, Ala.

A Tribute to "E. R."

(Continued from page 335)

There he was able to tell of the virtues of the honeybee and its value to the human race. No other way could the thousands and thousands who heard him have gained this information. When our industry is endangered, who is it that hurries to Washington, D. C., or other distant places to protect it? Here is where we need organization. It is not likely to be our national or state organization that will fly to our assistance. It is more likely to be E. R. and he is going at his own expense. E. R. favors organization and when members of the industry gather together with organization in view E. R. will be there. It is not the aim of this article to introduce E. R. to the beekeeping fraternity. Beekeepers in every corner of the United States and foreign countries have read his writings as editor of Gleanings in Bee Culture. As publisher of A B C and X Y Z, now in its 20th edition and published in many languages, he has the honor of publishing the book that is read by more beekeepers than any other on beekeeping.

Many years ago a boy in a foreign country wrote The A. I. Root Co. that he wanted a position with them, where he could be helpful and at the same time earn enough for a coveted college education. The letter was turned over to E. R.. who told the boy that he appreciated his desire but there were so many boys in the United States with the same desire he could not encourage him to come. The boy packed his belongings, boarded the ship, and in due time showed up in Medina. E. R. was puzzled but he found a way to locate the boy and he was soon on the way to education and position, for he not only became an authority in beekeeping but he got the coveted education and became one of our great preachers. When E. R. opens his 80th birthday mail on June 23 he will find that the boy did not forget.

Well, what I started to say is this: I am glad that in the course of the years E. R. and I came to the same part of the world and that I have come to know him.

I consider him one of my prized friends and I want to congratulate him upon this great day, and to wish him many more birthdays and much joy along the way.

"Out of the picture, Queenie! We're shooting those nice looking Continental Cans!"

EVEN the bees go for Continental's line of honey cans and pails!

Bright, tight, and clean, Continental cans and pails do a lot to help sell your honey. What's more, they're your assurance of complete protection.

Continental distributors always carry a complete stock of honey cans and pails ready for immediate shipment. They're conveniently located, so write, wire or phone the nearest for information on prices, sizes, terms, or samples. They're always glad to serve you promptly.

Complete information is also "yours for the asking" at any of our offices.

CALL THE NEAREST CONTINENTAL DISTRIBUTOR

PHOENIX, ARIZ.
Quick Seed & Feed Co.
Western Seed, Feed & Honey Co.

TUCSON, ARIZ.
W. C. Collier

ALAMEDA, CALIF.
F. E. Boyden-Hanson Co., Ltd.

ALHAMBRA, CALIF.
B-Z-B Honey Co.

LONG BEACH, CALIF.
Delgado & Bruce, Inc.

LOS ANGELES, CALIF.
Bryant & Cookinham, Inc.
California Honey Co.
Diamond Match Co.
Hamilton & Co.
Los Angeles Honey Co.

SAN FRANCISCO, CALIF.
E. F. Lane & Son

SPRING VALLEY, CALIF.
Darwin L. Baker

VALLEY CENTER, CALIF.
A. K. Whidden

DENVER, COLO.
Martin Brothers Company
Attn: R. J. Chadbourne

MONTROSE, COLO.
Western Colorado Honey Exch.

BOISE, IDAHO
Rudy, Atkinson & Co., Inc.

GREELEY, IDAHO
L. R. Rice

CHICAGO, ILL.
A. I. Root Co.
W. F. Straub & Co.
Sears, Roebuck & Co.

HAMILTON, ILL.
Dadant & Sons

DECATUR, IND.
The Brock Store

COUNCIL BLUFFS, IOWA
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INDEX TO DISPLAY ADVERTISEMENTS

Alabama Apiaries 371
Alexander Co. 323
American Bee Journal 323
American Honey Institute 327
Australasian Beekeeper 327
Beekeepers' Item 326
Berry & Co., M. C. 376
Bessonet Bee Co. 378
Bolling Bee Co. 372
Bradshaw & Sons, R. D. 380
Calvert Apiaries 374
Caucasian Apiaries 324
Citronelle Bee Co. 374
Coggshall & Son, B. B. 377
Continental Can Co. 383
Corona, J. P. 372
Crenshaw County Apiaries 373
Crowville Apiaries 377
Dadant & Sons 328
Ephardt's Honey Farms 374
Forehand & Sons, W. J. 379
Garon Bee Co. 373
Graydon Bros. 378
Hann, Albert G. 378
Harrell, W. E. 376
Homan Bros. 371
Hunt & Son, M. H. 322
Ideal Apiaries 380
Jewett & Sherman Co. 371
Kelley Co., The Walter J. 326
Knight, Jasper 382
Lewis Co., G. B. 381
Lotz Co., August 323
McConnell, Herman 374
McVay, J. F. 324
Magazine Mart 326
Merrill Bee Co. 376
Miller, John G. 378
Moore, J. P. 374
Muth Co., The Fred W. 323, 326, 371
Norman Bee Co. 372
Norman Bros. Apiaries 379
Norman, John A. 375
Pettit, Morley 378
Plant, W. E. 377
Plauche Bee Farm 375
Puett Co. 375
Root Co., The A. I. ..... Inside front cover, ... inside back cover, 376
Root Co. of Chicago, A. I. 326
Root Co. of Indianapolis, The A. I. 323
Root Co. of Iowa, The A. I. 322
Root Co. of New York, The A. I. 327
Root Co. of Norfolk, The A. I. 322
Root Co. of Syracuse, A. I. 322
Rossman & Long 382
St. Romain Apiaries, A. D 374
Schmidt & Sons, Oscar H. 327
Scott, J. J. 377
Shaw, A. E 375
Shelly, Lorne 372
Smith & Co., N. B. 374
Stevenson's Apiaries 372
Stover Apiaries ..... Inside back cover
Sullivan, Wright & Co. 379
Weaver Apiaries 371
White Pine Bee Farms 374
Williamson & Walton 326
Woodman Co., A. G. 327
York Bee Co. 384